

The `mdwtools.tex`* file

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1 Introduction and user guide

This file is really rather strange; it gets `\input` by other package documentation files to set up most of the environmental gubbins for them. It handles almost everything, like loading a document class, finding any packages, and building and formatting the title.

It also offers an opportunity for users to customise my nice documentation, by using a `mdwtools.cfg` file (not included).

1.1 Declarations

A typical documentation file contains something like

```
\input{mdwtools}
<declarations>
\mdwdoc
```

*The `mdwtools.tex` file is currently at version 1.4, dated 10 May 1996.

The initial `\input` reads in this file and sets up the various commands which may be needed. The final `\mdwdoc` actually starts the document, inserting a title (which is automatically generated), a table of contents etc., and reads the documentation file in (using the `\DocInput` command from the `doc` package).

1.1.1 Describing packages

<code>\describepackage</code>	The most important declarations are those which declare what the documentation describes. Saying <code>\describepackage{<package>}</code> loads the <i><package></i> (if necessary) and adds it to the auto-generated title, along with a footnote containing version information. Similarly, <code>\describesclass</code> adds a document class name to the title (without loading it – the document itself must do this, with the <code>\documentclass</code> command). For files which aren't packages or classes, use the <code>\describesfile</code> or <code>\describesfile*</code> command (the *-version won't <code>\input</code> the file, which is handy for files like <code>mdwtools.tex</code> , which are already input).
<code>\author</code>	The <code>\author</code> , <code>\date</code> and <code>\title</code> declarations work slightly differently to normal – they ensure that only the <i>first</i> declaration has an effect. (Don't you play with <code>\author</code> , please, unless you're using this program to document your own packages.) Using <code>\title</code> suppresses the automatic title generation.
<code>\date</code>	
<code>\title</code>	
<code>\docdate</code>	The default date is worked out from the version string of the package or document class whose name is the same as that of the documentation file. You can choose a different 'main' file by saying <code>\docdate{<file>}</code> .

1.1.2 Contents handling

<code>\addcontents</code>	A documentation file always has a table of contents. Other contents-like lists can be added by saying <code>\addcontents{<extension>}{<command>}</code> . The <i><extension></i> is the file extension of the contents file (e.g., 'lot' for the list of tables); the <i><command></i> is the command to actually typeset the contents file (e.g., <code>\listoftables</code>).
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1.1.3 Other declarations

<code>\implementation</code>	The <code>doc</code> package wants you to say <code>\StopEventually{<stuff>}</code> before describing the package implementation. Using <code>mdwtools.tex</code> , you just say <code>\implementation</code> , and everything works. It will automatically read in the licence text (from <code>gpl.tex</code> , and wraps some other things up).
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1.2 Other commands

The `mdwtools.tex` file includes the `syntax` and `sverb` packages so that they can be used in documentation files. It also defines some trivial commands of its own.

<code>\<</code>	Saying <code>\<<text></code> is the same as <code>\synt{<text>}</code> ; this is a simple abbreviation.
<code>\smallf</code>	Saying <code>\smallf <number>/<number></code> typesets a little fraction, like this: $\frac{3}{4}$. It's useful when you want to say that the default value of a length is 2 1/2 pt, or something like that.

1.3 Customisation

You can customise the way that the package documentation looks by writing a file called `mdwtools.cfg`. You can redefine various commands (before they're defined

here, even; `mdwtools.tex` checks most of the commands that it defines to make sure they haven't been defined already.

`\indexing` If you don't want the prompt about whether to generate index files, you can define the `\indexing` command to either 'y' or 'n'. I'd recommend that you use `\providecommand` for this, to allow further customisation from the command line.

`\mdwdateformat` If you don't like my date format (maybe you're American or something), you can redefine the `\mdwdateformat` command. It takes three arguments: the year, month and date, as numbers; it should expand to something which typesets the date nicely. The default format gives something like '10 May 1996'. You can produce something rather more exotic, like '10th May MCMXCVI' by saying

```
\newcommand{\mdwdateformat}[3]{%
  \number#3\textsuperscript{\numsuffix{#3}}\ %
  \monthname{#2}\ %
  \textsc{\romannumeral #1}%
}
```

`\monthname` Saying `\monthname{<number>}` expands to the name of the numbered month (which can be useful when doing date formats). Saying `\numsuffix{<number>}` will expand to the appropriate suffix ('th' or 'rd' or whatever) for the `<number>`. You'll have to superscript it yourself, if this is what you want to do. Putting the year number in roman numerals is just pretentious ;-).

`\mdwhook` After all the declarations in `mdwtools.tex`, the command `\mdwhook` is executed, if it exists. This can be set up by the configuration file to do whatever you want.

There are lots of other things you can play with; you should look at the implementation section to see what's possible.

2 Implementation

```
1 (*mdwtools)
```

The first thing is that I'm not a L^AT_EX package or anything official like that, so I must enable '@' as a letter by hand.

```
2 \makeatletter
```

Now input the user's configuration file, if it exists. This is fairly simple stuff.

```
3 \@input{mdwtools.cfg}
```

Well, that's the easy bit done.

2.1 Initialisation

Obviously the first thing to do is to obtain a document class. Obviously, it would be silly to do this if a document class has already been loaded, either by the package documentation or by the configuration file.

The only way I can think of for finding out if a document class is already loaded is by seeing if the `\documentclass` command has been redefined to raise an error. This isn't too hard, really.

```
4 \ifx\documentclass\@twoclasseserror\else
5   \documentclass[a4paper]{ltxdoc}
6   \ifx\doneclasses\mdw@undefined\else\doneclasses\fi
7 \fi
```

As part of my standard environment, I'll load some of my more useful packages. If they're already loaded (possibly with different options), I'll not try to load them again.

```
8 \@ifpackageloaded{doc}{\usepackage{doc}}
9 \@ifpackageloaded{syntax}{\usepackage[rounded]{syntax}}
10 \@ifpackageloaded{sverb}{\usepackage{sverb}}
```

2.2 Some macros for interaction

I like the L^AT_EX star-boxes, although it's a pain having to cope with T_EX's space-handling rules. I'll define a new typing-out macro which makes spaces more significant, and has a *-version which doesn't put a newline on the end, and interacts prettily with `\read`.

First of all, I need to make spaces active, so I can define things about active spaces.

```
11 \begingroup\obeyspaces
```

Now to define the main macro. This is easy stuff. Spaces must be carefully rationed here, though.

I'll start a group, make spaces active, and make spaces expand to ordinary space-like spaces. Then I'll look for a star, and pass either `\message` (which doesn't start a newline, and interacts with `\read` well) or `\immediate\write 16` which does a normal write well.

```
12 \gdef\mdwtype{%
13 \begingroup\catcode'\ \active\let \space%
14 \@ifstar{\mdwtype@i{\message}}{\mdwtype@i{\immediate\write\sixt@@n}}%
15 }
16 \endgroup
```

Now for the easy bit. I have the thing to do, and the thing to do it to, so do that and end the group.

```
17 \def\mdwtype@i#1#2{#1{#2}\endgroup}
```

2.3 Decide on indexing

A configuration file can decide on indexing by defining the `\indexing` macro to either 'y' or 'n'. If it's not set, then I'll prompt the user.

First of all, I want a switch to say whether I'm indexing.

```
18 \newif\ifcreateindex
```

Right: now I need to decide how to make progress. If the macro's not set, then I want to set it, and start a row of stars.

```
19 \ifx\indexing\@undefined
20 \mdwtype{*****}
21 \def\indexing{?}
22 \fi
```

Now enter a loop, asking the user whether to do indexing, until I get a sensible answer.

```
23 \loop
24 \@tempwafalse
```

```

25 \if y\indexing\@tempwattrue\createindextrue\fi
26 \if Y\indexing\@tempwattrue\createindextrue\fi
27 \if n\indexing\@tempwattrue\createindexfalse\fi
28 \if N\indexing\@tempwattrue\createindexfalse\fi
29 \if@tempwa\else
30 \mdwtype{* Create index files? (y/n) *}
31 \read\sixt@n to\indexing%
32 \repeat

```

Now, based on the results of that, display a message about the indexing.

```

33 \mdwtype{*****}
34 \ifcreateindex
35 \mdwtype{* Creating index files      *}
36 \mdwtype{* This may take some time  *}
37 \else
38 \mdwtype{* Not creating index files *}
39 \fi
40 \mdwtype{*****}

```

Now I can play with the indexing commands of the doc package to do whatever it is that the user wants.

```

41 \ifcreateindex
42 \CodeLineIndex
43 \EnableCrossrefs
44 \else
45 \CodeLineNumbered
46 \DisableCrossrefs
47 \fi

```

And register lots of plain T_EX things which shouldn't be indexed. This contains lots of \if... things which don't fit nicely in conditionals, which is a shame. Still, it doesn't matter that much, really.

```

48 \DoNotIndex{\def,\long,\edef,\xdef,\gdef,\let,\global}
49 \DoNotIndex{\if,\ifnum,\ifdim,\ifcat,\ifmmode,\ifvmode,\ifhmode,%,
50             \iftrue,\iffalse,\ifvoid,\ifx,\ifeof,\ifcase,\else,\or,\fi}
51 \DoNotIndex{\box,\copy,\setbox,\unvbox,\unhbox,\hbox,%,
52             \vbox,\vtop,\vcenter}
53 \DoNotIndex{\@empty,\immediate,\write}
54 \DoNotIndex{\egroup,\bgroup,\expandafter,\begingroup,\endgroup}
55 \DoNotIndex{\divide,\advance,\multiply,\count,\dimen}
56 \DoNotIndex{\relax,\space,\string}
57 \DoNotIndex{\csname,\endcsname,\@spaces,\openin,\openout,%,
58             \closein,\closeout}
59 \DoNotIndex{\catcode,\endinput}
60 \DoNotIndex{\jobname,\message,\read,\the,\m@ne,\noexpand}
61 \DoNotIndex{\hsize,\vsize,\hskip,\vskip,\kern,\hfil,\hfill,\hss}
62 \DoNotIndex{\m@ne,\z@,\z@skip,\@ne,\tw@,\p@}
63 \DoNotIndex{\dp,\wd,\ht,\vss,\unskip}

```

Last bit of indexing stuff, for now: I'll typeset the index in two columns (the default is three, which makes them too narrow for my tastes).

```

64 \setcounter{IndexColumns}{2}

```

2.4 Selectively defining things

I don't want to tread on anyone's toes if they redefine any of these commands and things in a configuration file. The following definitions are fairly evil, but should do the job OK.

```
\@gobbledef This macro eats the following \definition, leaving not a trace behind.
65 \def\@gobbledef#1#\@gobble}

\tdef The \tdef command is a sort of 'tentative' definition – it's like \def if the control
\tlet sequence named doesn't already have a definition. \tlet does the same thing
with \let.
66 \def\tdef#1{
67   \ifx#1\@@undefined%
68     \expandafter\def\expandafter#1%
69   \else%
70     \expandafter\@gobbledef%
71   \fi%
72 }
73 \def\tlet#1#2{\ifx#1\@@undefined\let#1=#2\fi}
```

2.5 General markup things

Now for some really simple things. I'll define how to typeset package names and environment names (both in the sans serif font, for now).

```
74 \tlet\package\textsf
75 \tlet\env\textsf

I'll define the \<...> shortcut for syntax items suggested in the syntax package.
76 \tdef\<#1>{\synt{#1}}

And because it's used in a few places (mainly for typesetting lengths), here's
a command for typesetting fractions in text.
77 \tdef\smallf#1/#2{\ensuremath{\hat{#1}\!/ \!/_{#2}}}
```

2.6 A table environment

tab Most of the packages don't use the (obviously perfect) `mdwtab` package, because it's big, and takes a while to load. Here's an environment for typesetting centred tables. The first (optional) argument is some declarations to perform. The mandatory argument is the table preamble (obviously).

```
78 \@ifundefined{tab}{%
79   \newenvironment{tab}[2][\relax]{%
80     \par\vskip2ex%
81     \centering%
82     #1%
83     \begin{tabular}{#2}%
84   }{%
85     \end{tabular}%
86     \par\vskip2ex%
87   }
88 }
```

2.7 Commenting out of stuff

`meta-comment` Using `\iffalse... \fi` isn't much fun. I'll define a gobbling environment using the `sverb` stuff.

```
89 \ignoreenv{meta-comment}
```

2.8 Float handling

This gubbins will try to avoid float pages as much as possible, and (with any luck) encourage floats to be put on the same pages as text.

```
90 \def\textfraction{0.1}
91 \def\topfraction{0.9}
92 \def\bottomfraction{0.9}
93 \def\floatpagefraction{0.7}
```

Now redefine the default float-placement parameters to allow 'here' floats.

```
94 \def\fps@figure{htbp}
95 \def\fps@table{htbp}
```

2.9 Other bits of parameter tweaking

Make grammar environments look pretty, by indenting the left hand sides by a large amount.

```
96 \grammarindent1in
```

I don't like being told by \TeX that my paragraphs are hard to linebreak: I know this already. This lot should shut \TeX up about most problems.

```
97 \sloppy
98 \hbadness\@M
99 \hfuzz10\p@
```

Also make \TeX shut up in the index. The `multicol` package irritatingly plays with `\hbadness`. This is the best hook I could find for playing with this setting.

```
100 \expandafter\def\expandafter\IndexParms\expandafter{%
101   \IndexParms%
102   \hbadness\@M%
103 }
```

The other thing I really don't like is 'Marginpar moved' warnings. This will get rid of them, and lots of other \LaTeX warnings at the same time.

```
104 \let\@latex@warning@no@line@gobble
```

Put some extra space between table rows, please.

```
105 \def\arraystretch{1.2}
```

Most of the code is at guard level one, so typeset that in upright text.

```
106 \setcounter{StandardModuleDepth}{1}
```

2.10 Contents handling

I use at least one contents file (the main table of contents) although I may want more. I'll keep a list of contents files which I need to handle.

There are two things I need to do to contents files here:

- I must typeset the table of contents at the beginning of the document; and
- I want to typeset tables of contents in two columns (using the `multicol` package).

The list consists of items of the form `\do{<extension>}{<command>}`, where `<extension>` is the file extension of the contents file, and `<command>` is the command to typeset it.

`\docontents` This is where I keep the list of contents files. I'll initialise it to just do the standard contents table.

```
107 \def\docontents{\do{toc}{\tableofcontents}}
```

`\addcontents` By saying `\addcontents{<extension>}{<command>}`, a document can register a new table of contents which gets given the two-column treatment properly. This is really easy to implement.

```
108 \def\addcontents#1#2{%
109   \toks@ \expandafter{\docontents\do{#1}{#2}}%
110   \edef\docontents{\the\toks@}%
111 }
```

2.11 Finishing it all off

`\finalstuff` The `\finalstuff` macro is a hook for doing things at the end of the document. Currently, it inputs the licence agreement as an appendix.

```
112 \tdef\finalstuff{\appendix\part*{Appendix}\input{gpl}}
```

`\implementation` The `\implementation` macro starts typesetting the implementation of the package(s). If we're not doing the implementation, it just does this lot and ends the input file.

I define a macro with arguments inside the `\StopEventually`, which causes problems, since the code gets put through an extra level of `\def`ing depending on whether the implementation stuff gets typeset or not. I'll store the code I want to do in a separate macro.

```
113 \def\implementation{\StopEventually{\attheend}}
```

Now for the actual activity. First, I'll do the `\finalstuff`. Then, if `doc`'s managed to find the `multicol` package, I'll add the end of the environment to the end of each contents file in the list. Finally, I'll read the index in from its formatted `.ind` file.

```
114 \tdef\attheend{%
115   \finalstuff%
116   \ifhave@multicol%
117     \def\do##1##2{\addtocontents{##1}{\protect\end{multicols}}}%
118     \docontents%
119   \fi%
120   \PrintIndex%
121 }
```

2.12 File version information

`\mdwpkginfo` For setting up the automatic titles, I'll need to be able to work out file versions and things. This macro will, given a file name, extract from L^AT_EX the version information and format it into a sensible string.

First of all, I'll put the original string (direct from the `\Provides...` command). Then I'll pass it to another macro which can parse up the string into its various bits, along with the original filename.

```
122 \def\mdwpkginfo#1{%
123   \edef\@tempa{\csname ver@#1\endcsname}%
124   \expandafter\mdwpkginfo@i\@tempa\@#1\@%
125 }
```

Now for the real business. I'll store the string I build in macros called `\<filename>date`, `\<filename>version` and `\<filename>info`, which store the file's date, version and 'information string' respectively. (Note that the file extension isn't included in the name.)

This is mainly just tedious playing with `\expandafter`. The date format is defined by a separate macro, which can be modified from the configuration file.

```
126 \def\mdwpkginfo@i#1/#2/#3 #4 #5\@#6.#7\@#8{%
127   \expandafter\def\csname #6date\endcsname%
128     {\protect\mdwdateformat{#1}{#2}{#3}}%
129   \expandafter\def\csname #6version\endcsname{#4}%
130   \expandafter\def\csname #6info\endcsname{#5}%
131 }
```

`\mdwdateformat` Given three arguments, a year, a month and a date (all numeric), build a pretty date string. This is fairly simple really.

```
132 \tdef\mdwdateformat#1#2#3{\number#3\ \monthname{#2}\ \number#1}
133 \def\monthname#1{%
134   \ifcase#1\or%
135     January\or February\or March\or April\or May\or June\or%
136     July\or August\or September\or October\or November\or December%
137   \fi%
138 }
139 \def\numsuffix#1{%
140   \ifnum#1=1 st\else%
141   \ifnum#1=2 nd\else%
142   \ifnum#1=3 rd\else%
143   \ifnum#1=21 st\else%
144   \ifnum#1=22 nd\else%
145   \ifnum#1=23 rd\else%
146   \ifnum#1=31 st\else%
147   th%
148   \fi\fi\fi\fi\fi\fi\fi%
149 }
```

`\mdwfileinfo` Saying `\mdwfileinfo{<file-name>}{<info>}` extracts the wanted item of `<info>` from the version information for file `<file-name>`.

```
150 \def\mdwfileinfo#1#2{\mdwfileinfo@i{#2}#1.\@#3}
151 \def\mdwfileinfo@i#1#2.#3\@#4{\csname#2#1\endcsname}
```

2.13 List handling

There are several other lists I need to build. These macros will do the necessary stuff.

`\mdw@ifitem` The macro `\mdw@ifitem<item>\in<list>{<true-text>}{<false-text>}` does `<true-text>` if the `<item>` matches any item in the `<list>`; otherwise it does `<false-text>`.

```
152 \def\mdw@ifitem#1\in#2{%
153   \@tempswafalse%
154   \def\@tempa{#1}%
155   \def\do##1{\def\@tempb{##1}\ifx\@tempa\@tempb\@tempswatrue\fi}%
156   #2%
157   \if@tempswa\expandafter\@firstoftwo\else\expandafter\@secondoftwo\fi%
158 }
```

`\mdw@append` Saying `\mdw@append<item>\to<list>` adds the given `<item>` to the end of the given `<list>`.

```
159 \def\mdw@append#1\to#2{%
160   \toks@{\do{#1}}%
161   \toks\tw@\expandafter{#2}%
162   \edef#2{\the\toks\tw@\the\toks@}%
163 }
```

`\mdw@prepend` Saying `\mdw@prepend<item>\to<list>` adds the `<item>` to the beginning of the `<list>`.

```
164 \def\mdw@prepend#1\to#2{%
165   \toks@{\do{#1}}%
166   \toks\tw@\expandafter{#2}%
167   \edef#2{\the\toks@\the\toks\tw@}%
168 }
```

`\mdw@add` Finally, saying `\mdw@add<item>\to<list>` adds the `<item>` to the list only if it isn't there already.

```
169 \def\mdw@add#1\to#2{\mdw@ifitem#1\in#2}{\mdw@append#1\to#2}
```

2.14 Described file handling

I'll maintain lists of packages, document classes, and other files described by the current documentation file.

First of all, I'll declare the various list macros.

```
170 \def\dopackages{}
171 \def\doclasses{}
172 \def\dootherfiles{}
```

`\describepackage` A document file can declare that it describes a package by saying `\describepackage{<package-name>}`. I add the package to my list, read the package into memory (so that the documentation can offer demonstrations of it) and read the version information.

```
173 \def\describepackage#1{%
174   \mdw@ifitem#1\in\dopackages}{%
175     \mdw@append#1\to\dopackages%
176     \usepackage{#1}%
177 }
```

```

177 \mdwpgkinfo{#1.sty}%
178 }%
179 }

```

`\describesclass` By saying `\describesclass{<class-name>}`, a document file can declare that it describes a document class. I'll assume that the document class is already loaded, because it's much too late to load it now.

```

180 \def\describesclass#1{\mdw@add#1\to\doclasses\mdwpgkinfo{#1.cls}}

```

`\describesfile` Finally, other 'random' files, which don't have the status of real L^AT_EX packages or document classes, can be described by saying `\describesfile{<file-name>}` or `\describesfile*{<file-name>}`. The difference is that the starred version will not `\input` the file.

```

181 \def\describesfile{%
182 \@ifstar{\describesfile@i@gobble}{\describesfile@i\input}%
183 }
184 \def\describesfile@i#1#2{%
185 \mdw@ifitem#2\in\dootherfiles{ }{%
186 \mdw@add#2\to\dootherfiles%
187 #1{#2}%
188 \mdwpgkinfo{#2}%
189 }%
190 }

```

2.15 Author and title handling

I'll redefine the `\author` and `\title` commands so that I get told whether I need to do it myself.

`\author` This is easy: I'll save the old meaning, and then redefine `\author` to do the old thing and redefine itself to then do nothing.

```

191 \let\mdw@author\author
192 \def\author{\let\author\@gobble\mdw@author}

```

`\title` And oddly enough, I'll do exactly the same thing for the title, except that I'll also disable the `\mdw@buildtitle` command, which constructs the title automatically.

```

193 \let\mdw@title\title
194 \def\title{\let\title\@gobble\let\mdw@buildtitle\relax\mdw@title}

```

`\date` This works in a very similar sort of way.

```

195 \def\date#1{\let\date\@gobble\def\today{#1}}

```

`\datefrom` Saying `\datefrom{<file-name>}` sets the document date from the given filename.

```

196 \def\datefrom#1{%
197 \protected@edef\@tempa{\noexpand\date{\csname #1date\endcsname}}%
198 \@tempa%
199 }

```

`\docfile` Saying `\docfile{<file-name>}` sets up the file name from which documentation will be read.

```

200 \def\docfile#1{%

```

```

201 \def\@tempa##1.##2\@{\def\@basefile{##1.##2}\def\@basename{##1}}%
202 \edef\@tempb{\noexpand\@tempa#1\noexpand\@}%
203 \@tempb%
204 }

```

I'll set up a default value as well.

```

205 \docfile{\jobname.dtx}

```

2.16 Building title strings

This is rather tricky. For each list, I need to build a legible looking string.

`\mdw@addtotitle` By saying `\mdw@addtotitle{<list>}{<command>}{<singular>}{<plural>}` I can add the contents of a list to the current title string in the `\mdw@title` macro.

```

206 \tdef\mdw@addtotitle#1#2#3#4{%

```

Now to get to work. I need to keep one 'lookahead' list item, and a count of the number of items read so far. I'll keep the lookahead item in `\@nextitem` and the counter in `\count@`.

```

207 \count@\z0%

```

Now I'll define what to do for each list item. The `\protect` command is already set up appropriately for playing with `\edef` commands.

```

208 \def\do##1{%

```

The first job is to add the previous item to the title string. If this is the first item, though, I'll just add the appropriate 'The ' or ' and the ' string to the title (this is stored in the `\@prefix` macro).

```

209 \edef\mdw@title{%
210 \mdw@title%
211 \ifcase\count@\@prefix%
212 \or\@nextitem%
213 \else, \@nextitem%
214 \fi%
215 }%

```

That was rather easy. Now I'll set up the `\@nextitem` macro for the next time around the loop.

```

216 \edef\@nextitem{%
217 \protect#2{##1}%
218 \protect\footnote{%
219 The \protect#2{##1} #3 is currently at version %
220 \mdwfileinfo{##1}{version}, dated \mdwfileinfo{##1}{date}.%
221 }\space%
222 }%

```

Finally, I need to increment the counter.

```

223 \advance\count@\@ne%
224 }%

```

Now execute the list.

```

225 #1%

```

I still have one item left over, unless the list was empty. I'll add that now.

```
226 \edef\mdw@title{%
227   \mdw@title%
228   \ifcase\count@%
229   \or\@nextitem\space#3%
230   \or\ and \@nextitem\space#4%
231   \else,\ and \@nextitem\space#4%
232   \fi%
233 }%
```

Finally, if $\count@ \neq 0$, I must set $\@prefix$ to ‘ and the ’.

```
234 \ifnum\count@>\z@\def\@prefix{ and the }\fi%
235 }
```

`\mdw@buildtitle` This macro will actually do the job of building the title string.

```
236 \tdef\mdw@buildtitle{%
```

First of all, I'll open a group to avoid polluting the namespace with my gubbins (although the code is now much tidier than it has been in earlier releases).

```
237 \beginingroup%
```

The title building stuff makes extensive use of `\edef`. I'll set `\protect` appropriately. (For those not in the know, `\@unexpandable@protect` expands to ‘`\noexpand\protect\noexpand`’, which prevents expansion of the following macro, and inserts a `\protect` in front of it ready for the next `\edef`.)

```
238 \let\@protect\protect\let\protect\@unexpandable@protect%
```

Set up some simple macros ready for the main code.

```
239 \def\mdw@title{}%
240 \def\@prefix{The }%
```

Now build the title. This is fun.

```
241 \mdw@addtotitle\dopackages\package{package}{packages}%
242 \mdw@addtotitle\doclasses\package{document class}{document classes}%
243 \mdw@addtotitle\dootherfiles\texttt{file}{files}%
```

Now I want to end the group and set the title from my string. The following hacking will do this.

```
244 \edef\next{\endgroup\noexpand\title{\mdw@title}}%
245 \next%
246 }
```

2.17 Starting the main document

`\mdwdoc` Once the document preamble has done all of its stuff, it calls the `\mdwdoc` command, which takes over and really starts the documentation going.

```
247 \def\mdwdoc{%
```

First, I'll construct the title string.

```
248 \mdw@buildtitle%
249 \author{Mark Wooding}%
```

Set up the date string based on the date of the package which shares the same name as the current file.

```
250 \datefrom\@basename%
```

Set up verbatim characters after all the packages have started.

```
251 \shortverb\|%
```

```
252 \shortverb\"%
```

Start the document, and put the title in.

```
253 \begin{document}
```

```
254 \maketitle%
```

This is nasty. It makes maths displays work properly in demo environments. *The L^AT_EX Companion* exhibits the bug which this hack fixes. So ner.

```
255 \abovedisplayskip\z0%
```

Now start the contents tables. After starting each one, I'll make it be multicolumnar.

```
256 \def\do##1##2{%
```

```
257   ##2%
```

```
258   \ifhave@multicol\addtocontents{##1}{%
```

```
259     \protect\begin{multicols}{2}%
```

```
260     \hbadness\@M%
```

```
261     }\fi%
```

```
262   }%
```

```
263   \docontents%
```

Input the main file now.

```
264 \DocInput{\@basefile}%
```

That's it. I'm done.

```
265 \end{document}
```

```
266 }
```

2.18 And finally...

Right at the end I'll put a hook for the configuration file.

```
267 \ifx\mdwhook\@undefined\else\expandafter\mdwhook\fi
```

That's all the code done now. I'll change back to 'user' mode, where all the magic control sequences aren't allowed any more.

```
268 \makeatother
```

```
269 </mdwtools>
```

Oh, wait! What if I want to typeset this documentation? Aha. I'll cope with that by comparing `\jobname` with my filename `mdwtools`. However, there's some fun here, because `\jobname` contains category-12 letters, while my letters are category-11. Time to play with `\string` in a messy way.

```
270 < *driver >
```

```
271 \makeatletter
```

```
272 \edef\@tempa{\expandafter\@gobble\string\mdwtools}
```

```
273 \edef\@tempb{\jobname}
```

```
274 \ifx\@tempa\@tempb
```

```
275 \describesfile*{mdwtools.tex}
276 \docfile{mdwtools.tex}
277 \makeatother
278 \expandafter\mdwdoc
279 \fi
280 \makeatother
281 </driver>
```

That's it. Done!

Mark Wooding, 10 May 1996

Appendix

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Version 2, June 1991

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