

TWEB.TW

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```

< * >≡
1   \newlinechar ‘^^J
2
3   \def \savecat #1%
4       {\expandafter\xdef\csname\string#1savedcat\endcsname{\the\catcode‘#1}}
5   \def \restorecat #1%
6       {\catcode‘#1=\csname\string#1savedcat\endcsname}
7   \savecat\@
8
9   \catcode‘\@ = 11
10
    < Web source formatting macros >
    < Setting layout of web source >
    < Macros written by web2tex script >
    < Multicolumn environment for indexes >
    < Index macros >
    < Cross-reference macros >
    < Initialize the layout >
11
12   \restorecat\@

```

Layout of a web source

```

< Setting layout of web source >≡
    < Fonts for typesetting headings, chapter names, etc. >
    < Page dimensions >
    < Headlines >
    < Table of contents >
    < Title, chapter, section... macros >

< Fonts for typesetting headings, chapter names, etc. >≡
13   \font \chapterfont = cmbx10 at 20pt
14   \font \titlefont   = cmsbx10 at 17pt
15   \font \authorfont  = cmsbx10 at 12pt
16   \font \sectionfont = cmbx10 at 12pt
17   \font \tocfont     = cmsbx10 at 12pt

```

```

18
19     \font \tenbxit      = cmbxti10 \def \bfit {\tenbxit}
20     \font \tenss       = cmss10
21     \font \tenssbf     = cmssbx10
22     \font \ninerms     = cmr9
23     \font \sevenrm     = cmr7
24     \font \ninebf      = cmbx9
25     \font \nineit      = cmti9
26     \font \ninebxit    = cmbxti10 at 8.5pt
27     \font \ninett      = cmtt9
28     \font \ninei       = cmmi9
29     \font \seveni      = cmmi7
30     \font \ninesy      = cmsy9
31     \font \nineex      = cmex9

  < Page dimensions >≡
32     \hoffset = 0.5in % extra space used to print code line numbers
33     \hsize   = 6.0in % less 0.5 than plain.tex value
34     \vsize   = 8.9in % default value
  < Round \vsize to the nearest multiple of \baselineskip >

  < Headlines >≡
35     \def \RCS {\jobname.tw} \def \RCSversion {Experimental}
36
37     \newdimen\textsize \textsize=\hsize
38
39     \def \pagenumber
40         {\folio}
41
42     \headline =
43         {\hbox to \textsize{\strut%
44             \ifnum\pageno>1
45                 \tenss\filename\hfil Version \RCSversion%
46                 \hbox to 4em{\hfil\pagenumber}%
47             \else
48                 \hfil\tenss\RCS%
49             \fi}\hss}
50
51     \footline = {\hfil}

  < Table of contents >≡
52     \def \tocline #1#2%
53         {\line{{\ignorespaces#1}\leaders\hbox to 3pt{.\hfil}\hfil
54             \hbox to 15pt{\hss#2}}}
55
56     \def \settocparms #1%
57         {\count@=#1
58             \ifnum\count@<1
59                 \def\tocskip
60                     {\vskip 3pt plus 1in

```

```

61         \penalty-100
62         \vskip 0pt plus -1in^^J}
63         \def\tocstyle{\tenssbf}
64         \def\tocindent{\z@}
65     \else
66         \def\tocskip{}
67         \def\tocstyle{\tenss}
68         \dimen@=20pt \advance\count@ by \m@ne \dimen@=\count@\dimen@
69         \edef\tocindent{\the\dimen@}
70     \fi}
71
72 \def \topofcontents
73     {\vskip2\baselineskip
74     \leftline{\tocfont Contents}
75     \vskip2ex
76     \begingroup\rm}
77
78 \def \botofcontents
79     {\endgroup
80     \semifilbreak{0.9}
81     \vskip3\baselineskip}
82
83 \def \printcontents
84     {\topofcontents
85     \Input{\jobname.toc}
86     \botofcontents}

\startsection{LEVEL}{INDENT}{BEFORESKIP}{AFTERSKIP}{STYLE}{HEADING}
          #1    #2    #3          #4          #5          #6

#1 LEVEL:      depth; e.g. chapter=0 sectino=1...
#2 INDENT:    indentation of heading from left margin
#3 BEFORESKIP: skip before header
#4 AFTERSKIP: skip after header
#5 STYLE:     style of heading; e.g. \bf
#6 HEADING

< Title, chapter, section... macros >≡
87 \def \title #1#2%
88     {\vglue4\baselineskip
89     \noindent{\rightskip = 0in plus 4em
90         \hyphenpenalty = 10000 \exhyphenpenalty = 10000
91         \baselineskip = 20pt
92         \titlefont#1\par}
93     \vskip 0.5\baselineskip
94     \hrule height 2pt width \hsize
95     \vskip 0.5\baselineskip
96     \noindent
97     \line{\authorfont #2}
98     \vskip2\baselineskip}
99
100 \def \startsection#1#2#3#4#5#6%
101     {\ifnum#1<2

```

```

102         \semifilbreak{0.8}
103     \fi
104     \vskip #3
105     \def\titl@{#6}
106     \edef\themodtitle{\sanitize\titl@}
107     \message{[\themodtitle]}
108     \settocparms{#1}
109     {\edef\next
110         {\noexpand\write\cont{\tocskip\string\tocline%
111             {\hskip\tocindent\tocstyle\space\sanitize\themodtitle}%
112             {\noexpand\the\pageno}}}%
113         \next}% write to toc
114     \vbox{\leftskip=#2
115         \rightskip=0.5true in plus 4em minus 0.5 true in
116         \hyphenpenalty=9999 \exhyphenpenalty=9999
117         \noindent#5#6}%
118     \nobreak
119     \vskip#4}
120
121     \def \gobblemeaning#1:->{}
122     \def \sanitize {\expandafter\gobblemeaning\meaning}
123
124     \def \chapter#1%
125         {\vfil\eject\startsection{0}{\z@}{\z@}{6ex}{\chapterfont}{#1}}
126     \def \section#1%
127         {\startsection{1}{\z@}{4ex}{2ex}{\sectionfont}{#1}}
128     \def \subsection#1%
129         {\startsection{2}{\z@}{2ex}{1ex}{\tenbf}{#1}}
130     \def \subsubsection#1%
131         {\startsection{3}{\z@}{1ex}{0ex}{\tenit}{#1}}
132     \def \paragraph#1%
133         {\startsection{4}{\z@}{1.5ex}{0ex}{\tenit}{#1}}

```

Indexes

The user sets the pagenumber style with the `\pagenumbering{F00}` command, which sets the page counter to 1 and defines `\thepage` to be `\F00`. For example, `\pagenumbering{roman}` causes pages to be numbered i, ii, etc.

⟨ *Index macros* ⟩≡

```

134     \def \newwrite
135         {\alloc@7\write\chardef\sixt@n} % remove \outer
136
137     \def \@nameuse#1%
138         {\csname #1\endcsname}
139
140     \def \arabic#1{\@arabic{\@nameuse{c@#1}}}
141     \def \roman#1{\@roman{\@nameuse{c@#1}}}
142     \def \Roman#1{\@Roman{\@nameuse{c@#1}}}
143     \def \alph#1{\@alph{\@nameuse{c@#1}}}
144     \def \Alph#1{\@Alph{\@nameuse{c@#1}}}
145

```

```

146     \def \@arabic#1{\ifnum #1>0 \number #1\fi}
147     \def \@roman#1{\romannumeral #1}
148     \def \@Roman#1{\expandafter\uppercase\expandafter{\romannumeral #1}}
149     \def \@alph#1{\ifcase#1\or a\or b\or c\or d\else@ialph{#1}\fi}
150     \def \@ialph#1%
151         {\ifcase#1\or \or \or \or \or e\or f\or g\or h\or i\or j\or k\or l\or
152             m\or n\or o\or p\or q\or r\or s\or t\or u\or v\or w\or x\or y\or
153             z\else@ctrerr\fi}
154     \def \@Alph#1{\ifcase#1\or A\or B\or C\or D\else@Ialph{#1}\fi}
155     \def \@Ialph#1%
156         {\ifcase#1\or \or \or \or \or E\or F\or G\or H\or I\or J\or K\or L\or
157             M\or N\or O\or P\or Q\or R\or S\or T\or U\or V\or W\or X\or Y\or
158             Z\else@ctrerr\fi}
159
160     \def \pagenumbering#1%
161         {\global\pageno \@ne \gdef\thepage{\csname @#1\endcsname\pageno}}
162
163     \pagenumbering {arabic}

```

Environment `\@bsphack ... \@esphack` is used by macros such as `\index` that want to be invisible i.e., not leave any extra space when used in the middle of text. Such a macro should begin with `\@bsphack` and end with `\@esphack`. The macro in question should not create any text, nor change the mode.

< Index macros >+≡

```

164     \newdimen \@savsk
165     \newcount \@savsf
166
167     \def \@bsphack
168         {\@savsk\lastskip\ifhmode\@savsf\spacefactor\fi}
169
170     \def \@esphack
171         {\relax%
172             \ifhmode\spacefactor\@savsf
173             {\ifdim \@savsk >\z@ \ignorespaces\fi
174             \fi}
175

```

The command `\@sanitize` changes the catcode of all special characters except for braces to ‘other’. It can be used for commands like `\index` that want to write their arguments verbatim.

< Index macros >+≡

```

176     \def \makeother #1{\catcode'#1=12\relax}
177
178     \def \@sanitize
179         {\makeother\ \makeother\\\makeother\%
180             \makeother&\makeother#\makeother\~%
181             \makeother\_ \makeother%\makeother\~\relax}

```

Default command name `\indexentry` is shortened to `\E`. This change will make input files for `makeindex` shorter. This would allow to process some indexes on MSDOS (there is no 'big' version of `makeindx.exe`). Above change must be told to `makeindex` via style files, where the following line should be added:

```
keyword "\\E"
```

< Index macros >+≡

```
182 \def \makeindex
183     {\newwrite\@indexfile
184      \immediate\openout \@indexfile = \jobname.idx
185      \def\index {\@bsphack\begingroup\@sanitize\@wrindex\@indexfile}
186      \message{^^J--> Writing index file \jobname.idx }}
187 \def \@wrindex#1#2%
188     {\let \thepage = \relax%
189      \xdef\gtempa
190       {\write#1{\string\E{#2}{\thepage}}}%
191      \endgroup\gtempa\@esphack}
192 \def \index
193     {\@bsphack\begingroup\@sanitize\@index}
194 \def \@index#1%
195     {\endgroup\@esphack}
196
197 \def \makeglossary
198     {\newwrite\@glossaryfile
199      \immediate\openout\@glossaryfile=\jobname.glo
200      \def\glossary{\@bsphack\begingroup\@sanitize\@wrindex\@glossaryfile}
201      \message{Writing glossary file \jobname.glo }\fi}
202 \def \glossary {\@bsphack\begingroup\@sanitize\index}
203
204 \def \@idxitem {\par\hangindent 20pt }
205 \def \subitem {\par\hangindent 20pt \hskip 20pt }
206 \def \subsubitem {\par\hangindent 20pt \hskip 30pt }
207
208 \def \seeterm{see}
209 \def \see#1#2%
210     {{{it \seeterm\}/} #1}
211
212 < Macros for printing web indexes >
```

< Macros for printing web indexes >≡

```
212 \def \Input#1%
213     {\openin1 #1
214      \ifeof1
215       \message{^^J--- I cannot find file #1 }
216      \else
217       \closein1
218       \input #1
219       \message{^^J<-- Reading file #1 }
220      \fi}
221
```

```

222     \def \indexspace
223         {\relax}
224
225     \def \printuserleveldefs
226         {\singlecolumn
227         \vfill\eject
228         \Input{\jobname.und}}
229     \def \printdefs
230         {\singlecolumn
231         \vfill\eject
232         \Input{\jobname.dnd}}
233     \def \printchunks
234         {\singlecolumn
235         \vfill\eject
236         \let \pagenumber = \relax
237         \Input{\jobname.chn}}
238
239     \def \beginuserleveldefs
240         {\begingroup
241         < Ninepoint environment for printing indexes >
242         \section{User-level definitions}
243         \let\item\@idxitem
244         \triplecolumns \tt}
245     \def \begindefs
246         {\begingroup
247         < Ninepoint environment for printing indexes >
248         \section{Definitions}
249         \let\item\@idxitem
250         \triplecolumns \tt}
251     \def \beginchunks
252         {\begingroup
253         < Ninepoint environment for printing indexes >
254         \parskip = 2\p@ plus 2\p@
255         \let\item\@idxitem
256         \section{Chunks}
257         \bf}
258
259     \def \endindex
260         {\endgroup}
261
262     \def \makeindexes
263         {\par
264         \newwrite\@userleveldefsfile
265         \immediate\openout\@userleveldefsfile=\jobname.udx
266         \def\udx{\@bsphack\begingroup\@sanitize\@wrindex\@userleveldefsfile}
267         \message{^^J--> Writing index file \jobname.udx }
268         \newwrite\@defsfile
269         \immediate\openout\@defsfile=\jobname.ddx
270         \def\ddx{\@bsphack\begingroup\@sanitize\@wrindex\@defsfile}
271         \message{^^J--> Writing index file \jobname.ddx }
272         \newwrite\@chunkfile
273         \immediate\openout\@chunkfile=\jobname.chk
274         \def\chk{\@bsphack\begingroup\@sanitize\@wrindex\@chunkfile}
275         \message{^^J--> Writing index file \jobname.chk }}

```

< Ninepoint environment for printing indexes >≡

```

276     \textfont0 = \ninerm \scriptfont0 = \sevenrm%
277     \textfont1 = \ninei \scriptfont1 = \seveni%
278     \textfont2 = \sevensy%
279     \textfont3 = \nineex%
280     \def \rm {\fam0\ninerm} \rm%
281     \def \it {\nineit}%
282     \def \bfit {\ninebxit}%
283     \def \bf {\ninebf}%
284     \def \tt {\ninett}%
285     \def \oldstyle {\fam\@ne\ninei}%
286     \chardef\ = "5C%
287     \parindent = \z@ \parskip = \z@%
288     \hfuzz = \hsize % index pages are wider
289     \baselineskip = 11pt \topskip = \baselineskip%
< Round \vsize to the nearest multiple of \baselineskip >

```

< Round \vsize to the nearest multiple of \baselineskip >≡

```

290     \advance \vsize by 0.5\baselineskip
291     \divide \vsize by \baselineskip
292     \multiply \vsize by \baselineskip

```

Multicolumn environment for index formatting

< Multicolumn environment for indexes >≡

```

293     \def \gobble#1{}
294     \let \wlog = \gobble
295
296     \newskip\abovecolumnskip \abovecolumnskip = \bigskipamount
297     \newskip\belowcolumnskip \belowcolumnskip = \bigskipamount
298     \newdimen \gutter \gutter = 2pc
299     \newdimen \c@lumnhsiz
300     \newdimen \pagegoal@limit
301     \newdimen \htp@rtialpage
302     \newtoks \previousoutput
303     \newcount \number@fcolumns
304     \newbox \@partialpage
305     \newdimen \singlec@lumnhsiz
306     \newdimen \singlec@lumnvsize
307     \newtoks \previousoutput
308     \let \@ndcolumns = \relax

```

We have a few synonymous ways to refer to multiple column modes.

< Multicolumn environment for indexes >+≡

```

309     \def \doublecolumns {\@columns2}
310     \def \triplecolumns {\@columns3}
311     \def \quadcolumns {\@columns4}
312

```



```

313     \def \singlecolumn
314         {\@endcolumns\vskip\belowcolumnskip\nointerlineskip}
315
316     \let \endcolumns = \singlecolumn
317
318     \def \@columns #1%
319         {\@endcolumns%
320         \begingroup
321         \global\let\@endcolumns=\@endcolumns
322         \par % Shouldn't start in horizontal mode.
323         \global\previousoutput = \expandafter{\the\output}
324         \pagegoal@limit = \pagegoal
325         \advance \pagegoal@limit by -5\baselineskip
326         \ifdim\pagetotal > \pagegoal@limit
327             \vfill\eject
328         \else
329             \global\output =
330                 {\global\setbox\@partialpage =
331                     \vbox{\unvbox255\vskip\abovecolumnskip}}
332             \pagegoal = \pagetotal
333             \eject % now expand the \output just above.
334             \fi
335             \global\number@fcolumns=#1
336             \global\c@lumnhsz = \hsz % if \hsz changed, get the new value.
337             \global\advance\c@lumnhsz by -#1\gutter
338             \global\divide\c@lumnhsz by #1
339             \global\output = {\c@lumnoutput}
340             \global\singlec@lumnhsz = \hsz
341             \global\singlec@lumnvsz = \vsz
342             \hsz = \c@lumnhsz
343             \ht@rtialpage = \ht\@partialpage
344             \advance \ht@rtialpage by 0.5\baselineskip
345             \divide \ht@rtialpage by \baselineskip
346             \multiply \ht@rtialpage by \baselineskip
347             \ht\@partialpage = \ht@rtialpage
348             \global\advance\vsz by -\ht@rtialpage
349             \global\vsz = #1\vsz }

```

When this is invoked `\box 255` should contain just the right amount of material, whether triggered by an output routine or a change in the number of columns. Because columns have to contain a whole number of lines of type, we take a bit of care with balancing the heights of the columns to prevent either losing material or having a very short last column.

Note: when a page ends due to `\bye` or `\eject`, `\box255` will contain lots of white space, so the columns will not look balanced. To fix this use `\singlecolumn` before ending the page.

< Multicolumn environment for indexes >+≡

```

350     \def \@columnsplit
351         {\ Balance columns }
352         \global\setbox255 = \vbox{% see the last line on p.417 (wb)
353             \unvbox\@partialpage
354             \ifnum\number@fcolumns>0%
355                 \setbox1 = \vbox to \dimen0{\dimen2=\dp1 \unvbox1\kern-\dimen2\vfil}
356                 \ifnum\number@fcolumns=1%

```

```

357         \hbox to \singlec@lumnhsizel{box1}
358     \fi
359 \fi
360 \ifnum\number@fcolumns>1%
361     \setbox3 = \vbox to \dimen0{\dimen2=\dp3 \unvbox3\kern-\dimen2\vfil}
362     \ifnum\number@fcolumns=1%
363         \hbox to \singlec@lumnhsizel{box1\hfil\box3}
364     \fi
365 \fi
366 \ifnum\number@fcolumns>2%
367     \setbox5 = \vbox to \dimen0{\dimen2=\dp5 \unvbox5\kern-\dimen2\vfil}
368     \ifnum\number@fcolumns=3%
369         \hbox to \singlec@lumnhsizel{box1\hfil\box3\hfil\box5}
370     \fi
371 \fi
372 \ifnum\number@fcolumns>3%
373     \setbox7 = \vbox to \dimen0{\dimen2=\dp7 \unvbox7\kern-\dimen2\vfil}
374     \ifnum\number@fcolumns=4%
375         \hbox to \singlec@lumnhsizel{box1\hfil\box3\hfil\box5\hfil\box7}
376     \fi
377 \fi}}
378
379 \def \c@lumnoutput
380     {\@columnsplit
381     \hsizel = \singlec@lumnhsizel % local to the \output group
382     \vsizel = \singlec@lumnvsizel
383     \the\previousoutput
384     \global\vsizel=\number@fcolumns\singlec@lumnvsizel}
385
386 \def @@endcolumns
387     {\global\let@endcolumns=\relax%
388     \par % Shouldn't start in horizontal mode.
389     \global\output = {\global\setbox1 = \box255}%
390     \pagegoal = \pagetotal
391     \eject
392     \global\setbox255 = \box1
393     \@columnsplit
394     \global\vsizel = \singlec@lumnvsizel
395     \global\output = \expandafter{\the\previousoutput}%
396     \endgroup
397     \unvbox255}

< Balance columns )≡
398     \dimen0 = \ht255
399     \advance \dimen0 by \topskip
400     \advance \dimen0 by -\baselineskip
401     \divide\dimen0 by \number@fcolumns
402     \splittopskip = \topskip
403     \begingroup
404         \vbadness = 10000
405     \loop
406         \setbox8=\copy255

```

```

407     \global\setbox1 = \vsplit8 to \dimen0
408     \global\setbox3 = \vsplit8 to \dimen0
409     \ifnum\number@fcolumns>2%
410         \global\setbox5 = \vsplit8 to \dimen0
411     \fi
412     \ifnum\number@fcolumns>3%
413         \global\setbox7 = \vsplit8 to \dimen0
414     \fi
415     \ifdim\ht8>\z@ \global\advance\dimen0 by 1pt
416     \repeat
417 \endgroup

```

Cross references

`\ref{value}{name}` gives value to `name`
`\pageref{name}` writes `\ref{page number}{name}` to `.ref` file
`\refpage{name}` prints page number referenced by `name`
`\showmissestrue` if you want to see missing references

< Cross-reference macros >≡

```

418     \newcount\miscount      % number of unknown references
419     \newif\ifshowmisses
420
421     \def \ref #1#2%
422         {\xdef\temp{#1}
423          \expandafter\dordef\csname#2\endcsname}
424     \def \dordef #1%
425         {\global\let#1\temp}
426
427     \Input{\jobname.ref}
428     \newwrite\refo \immediate\openout\refo=\jobname.ref
429
430     \def \pageref #1%
431         {\write\refo{\string\ref{\number\pageno}{#1}}}
432     \def \refpage #1%
433         {\expandafter\usedef\csname#1\endcsname}
434
435     \def \usedef #1%
436         {\ifx#1\relax%
437          \ifshowmisses\showmiss #1 \fi%
438          \global\advance\miscount by 1 ???%
439          \else%
440              #1%
441          \fi}
442
443     \def \showmiss #1%
444         {{\escapechar=-1%
445          \message{^^J*** WARNING: Undefined reference > #1<}}}
446
447     \outer \def \bye
448         {\write \cont {\string\restorecat\string\@}
449          \closeout\cont}

```

```

450         \ifnum\miscount>0
451             \message{^^J!!! \the\miscount\space %
452                 undefined reference(s) were present }%
453         \fi
454         \par\vfill\supereject
455         \end}

```

Web2tex macros

<Macros written by web2tex script>≡

```

456     {\obeyspaces\global\let = \ } % from texbook, p.381
457
458     {\catcode'\ '=\active \gdef{\relax\lq}}
459     {\catcode'\ ^^I=\active \gdef^^I{\ \ \ }}
460
461     {\obeyspaces\global\def\gobblespace#1{\ifx#1 \else#1\fi}}
462
463     \def \setupmodname
464         {\catcode'\$=3 \catcode'\&=4%
465          \catcode'\#=6 \catcode'\%=14%
466          \catcode'\~=13 \catcode'\_ =8%
467          \catcode'\^=7 \catcode'\ =10%
468          \catcode'\ ^^M=5\relax}
469
470     \def \LA {\begingroup\setupmodname$\langle\,$\bfit}
471     \def \RA {\/$\,\rangle$\endgroup}
472
473     \gdef \ttverbatim
474         {\begingroup%
475          \makeother\\\makeother{\makeother\}\makeother\$\%
476          \makeother\&\makeother#\makeother%\makeother\~%
477          \makeother\_ \makeother^ \makeother\"%
478          \obeyspaces\obeylines\tt}
479
480     \newskip\ttglue
481     \ttglue=.5em plus.25em minus.15em
482
483     {\catcode'\ |=\active
484      \obeylines \gdef|{\ttverbatim \spaceskip\ttglue \let^^M=\ \let|= \endgroup}}
485
486     \def \CODE%
487         {\ttverbatim%
488          \let\par=\endgraf%
489          \parskip=\z@%
490          \leavevmode%
491          \ttfinish}% written by web2tex script itself
492
493     %%% {\catcode'\ | = 0 |catcode'\ | = 12 %
494     %%% |obeylines |gdef|ttfinish#1<EDOC>{|gobblespace#1\endgroup}}
495
496     \def \NO #1% line numbers which appear in the margin

```

```

497         {\noindent\llap{\ninei #1\qquad}\kern\parindent}
498
499     \def \N #1#2% page number -- line number (indexes)
500         {${#2}_{\oldstyle#1}$}
501
502     \def \BEGINCODE
503         {\semifilbreak{0.9}
504          \bigskip
505          \begingroup
506          \obeylines}
507     \def \ENDCODE
508         {\endgroup
509          \semifilbreak{0.9}}
510
511     \def \BEGINDOC
512         {\bigskip
513          \begingroup
514          \catcode'\|=\active}
515     \def \ENDDOC
516         {\endgroup}
517
518     \newif \iffullpages
519
520     \newdimen \upperbound
521
522     \def \semifilbreak #1%
523         {\par
524          \upperbound = #1\vsizer      %% 0.1\vsizer \approx 5\baselineskip
525          \ifdim\pagetotal > \pagegoal %% page already overfull;
526                                     %% left to page builder
527          \else
528              \ifdim\pagetotal > \upperbound
529                  \vfill\eject
530              \fi
531          \fi}

```

Macros used for web source formatting

⟨ *Web source formatting macros* ⟩≡

⟨ *Changing font* ⟩
 ⟨ *Typesetting font tables* ⟩
 ⟨ *Non-centered displays* ⟩
 ⟨ *Typesetting units of measure and syntactic quantities* ⟩

⟨ *Typesetting font tables* ⟩≡

```

532     \def \oct#1{\hbox{\rm\'}{\kern-.2em\it#1}\kern.05em} % octal constant
533     \def \hex#1{\hbox{\rm\H}{\tt#1}} % hexadecimal constant
534
535     \def \odddline#1%
536         {\cr

```



```

587     {\catcode'\^M=5$$#1\halign\bgroup\indent##\hfil&&\quad#\hfil\cr}}
588
589     \outer\def\enddisplay{\crr\egroup$$}

```

⟨ *Changing font* ⟩≡

```

590     \def \bold#{\bgroup\bf\let\next = }
591
592     \def \ttt#{\bgroup\tt\let\next = }% typewriter
593
594     \def \stress #1%
595         {\begingroup
596         \def \next
597             {\def \next
598                 {\setbox 0 = \hbox {\nexttoken}%
599                 \ifdim \ht 0< \fontdimen 5 \font
600                     \it #1%
601                 \else
602                     \it #1\/%
603                 \fi}%
604                 \ifcat A\noexpand \nexttoken
605                     \next
606                 \else
607                     \ifcat 0\noexpand \nexttoken
608                         \next
609                     \else
610                         \ifcat \space\noexpand \nexttoken
611                             \else
612                                 %% \message {?: \meaning \nexttoken}%
613                             \fi
614                             \it #1\/%
615                         \fi
616                     \fi
617                 \endgroup}%
618         \futurelet \nexttoken \next }

```

⟨ *Typesetting units of measure and syntactic quantities* ⟩≡

```

619     \def <#1>{\leavevmode\hbox{${\langle$#1\}/${\rangle$}}
620
621     \def \pt {\, {\rm pt}} % units of points, in math formulas
622     \def \in {\, {\rm in}} % units of inches, in math formulas
623     \def \em {\, {\rm em}} % units of em, in math formulas

```

⟨ *Initialize the layout* ⟩≡

```

624     \raggedbottom
625     \frenchspacing
626     \fullpagesfalse
627     \newwrite \cont
628     \openout \cont = \jobname.toc
629     \write \cont {\string\savecat\string\@}
630     \write \cont {\string\catcode'\string\@=11}

```

User-level definitions

<code>\@@endcolumns</code>	10 ₃₈₆	<code>\endchart</code>	14 ₅₅₄	<code>\RA</code>	12 ₄₇₁
<code>\@Alph</code>	5 ₁₅₄	<code>\ENDCODE</code>	13 ₅₀₇	<code>\RCS</code>	2 ₃₅
<code>\@Ialph</code>	5 ₁₅₅	<code>\enddisplay</code>	15 ₅₈₉	<code>\RCSversion</code>	2 ₃₅
<code>\@Roman</code>	5 ₁₄₈	<code>\ENDDOC</code>	13 ₅₁₅	<code>\ref</code>	11 ₄₂₁
<code>\@alph</code>	5 ₁₄₉	<code>\endindex</code>	7 ₂₅₉	<code>\refpage</code>	11 ₄₃₂
<code>\@arabic</code>	5 ₁₄₆	<code>\evenline</code>	14 ₅₄₂	<code>\reposition</code>	14 ₅₆₃
<code>\@bsphack</code>	5 ₁₆₇	<code>\glossary</code>	6 ₂₀₀ , 6 ₂₀₂	<code>\restorecat</code>	1 ₅
<code>\@columns</code>	9 ₃₁₈	<code>\gobble</code>	8 ₂₉₃	<code>\rm</code>	8 ₂₈₀
<code>\@columnsplit</code>	9 ₃₅₀	<code>\gobblemeaning</code>	4 ₁₂₁	<code>\Roman</code>	4 ₁₄₂
<code>\@esphack</code>	5 ₁₇₀	<code>\gobblespace</code>	12 ₄₆₁	<code>\roman</code>	4 ₁₄₁
<code>\@ialph</code>	5 ₁₅₀	<code>\gtempa</code>	6 ₁₈₉	<code>\sanitize</code>	4 ₁₂₂
<code>\@idxitem</code>	6 ₂₀₄	<code>\gutter</code>	8 ₂₉₈	<code>\savecat</code>	1 ₃
<code>\@index</code>	6 ₁₉₄	<code>\hex</code>	13 ₅₃₃	<code>\section</code>	4 ₁₂₆
<code>\@nameuse</code>	4 ₁₃₇	<code>\htp@rtialpage</code>	8 ₃₀₁	<code>\see</code>	6 ₂₀₉
<code>\@partialpage</code>	8 ₃₀₄	<code>\iffullpages</code>	13 ₅₁₈	<code>\seeterm</code>	6 ₂₀₈
<code>\@roman</code>	5 ₁₄₇	<code>\ifshowmisses</code>	11 ₄₁₉	<code>\semifilbreak</code>	13 ₅₂₂
<code>\@sanitize</code>	5 ₁₇₈	<code>\in</code>	15 ₆₂₂	<code>\settocparms</code>	2 ₅₆
<code>\@savsf</code>	5 ₁₆₅	<code>\index</code>	6 ₁₈₅ , 6 ₁₉₂	<code>\setupmodname</code>	12 ₄₆₃
<code>\@savsk</code>	5 ₁₆₄	<code>\indexspace</code>	7 ₂₂₂	<code>\showmiss</code>	11 ₄₄₃
<code>\@wrindex</code>	6 ₁₈₇	<code>\Input</code>	6 ₂₁₂	<code>\singlec@lumnhsiz</code>	8 ₃₀₅
<code>\abovecolumnskip</code>	8 ₂₉₆	<code>\it</code>	8 ₂₈₁	<code>\singlec@lumnvsiz</code>	8 ₃₀₆
<code>\Alph</code>	4 ₁₄₄	<code>\LA</code>	12 ₄₇₀	<code>\singlecolumn</code>	9 ₃₁₃
<code>\alph</code>	4 ₁₄₃	<code>\makeglossary</code>	6 ₁₉₇	<code>\sirt@cn</code>	4 ₁₃₅
<code>\arabic</code>	4 ₁₄₀	<code>\makeindex</code>	6 ₁₈₂	<code>\startsection</code>	3 ₁₀₀
<code>\beginchart</code>	14 ₅₄₆	<code>\makeindexes</code>	7 ₂₆₂	<code>\stress</code>	15 ₅₉₄
<code>\beginchunks</code>	7 ₂₅₁	<code>\makeother</code>	5 ₁₇₆	<code>\subitem</code>	6 ₂₀₅
<code>\BEGINCODE</code>	13 ₅₀₂	<code>\miscout</code>	11 ₄₁₈	<code>\subsection</code>	4 ₁₂₈
<code>\begindefs</code>	7 ₂₄₅	<code>\N</code>	13 ₄₉₉	<code>\subsubitem</code>	6 ₂₀₆
<code>\begindisplay</code>	14 ₅₈₃	<code>\newwrite</code>	4 ₁₃₄	<code>\subsubsection</code>	4 ₁₃₀
<code>\BEGINDOC</code>	13 ₅₁₁	<code>\next</code>	4 ₁₀₉ , 15 ₅₉₆ , 15 ₅₉₇	<code>\temp</code>	11 ₄₂₂
<code>\beginuserleveldefs</code>	7 ₂₃₉	<code>\NO</code>	12 ₄₉₆	<code>\textsize</code>	2 ₃₇
<code>\belowcolumnskip</code>	8 ₂₉₇	<code>\normalchart</code>	14 ₅₆₅	<code>\themodtitle</code>	4 ₁₀₆
<code>\bf</code>	8 ₂₈₃	<code>\number@c@lumn</code>	8 ₃₀₃	<code>\titl@</code>	4 ₁₀₅
<code>\bfit</code>	2 ₁₉ , 8 ₂₈₂	<code>\oct</code>	13 ₅₃₂	<code>\title</code>	3 ₈₇
<code>\bold</code>	15 ₅₉₀	<code>\oddl</code>	13 ₅₃₅	<code>\tocindent</code>	3 ₆₄ , 3 ₆₉
<code>\botofcontents</code>	3 ₇₈	<code>\oldstyle</code>	8 ₂₈₅	<code>\tocline</code>	2 ₅₂
<code>\bye</code>	11 ₄₄₇	<code>\pagegoal@limit</code>	8 ₃₀₀	<code>\tocskip</code>	2 ₅₉ , 3 ₆₆
<code>\c@lumnhsiz</code>	8 ₂₉₉	<code>\pagenumber</code>	2 ₃₉	<code>\tocstyle</code>	3 ₆₃ , 3 ₆₇
<code>\c@lumnoutp</code>	10 ₃₇₉	<code>\pagenumbering</code>	5 ₁₆₀	<code>\topofcontents</code>	3 ₇₂
<code>\chapter</code>	4 ₁₂₄	<code>\pageref</code>	11 ₄₃₀	<code>\triplecolumns</code>	8 ₃₁₀
<code>\chartstrut</code>	14 ₅₄₄	<code>\paragraph</code>	4 ₁₃₂	<code>\tt</code>	8 ₂₈₄
<code>\chk</code>	7 ₂₇₄	<code>\previousoutput</code>	8 ₃₀₂ , 8 ₃₀₇	<code>\ttglue</code>	12 ₄₈₀
<code>\CODE</code>	12 ₄₈₆	<code>\printchunks</code>	7 ₂₃₃	<code>\ttt</code>	15 ₅₉₂
<code>\csname</code>	1 ₄	<code>\printcontents</code>	3 ₈₃	<code>\udx</code>	7 ₂₆₆
<code>\ddx</code>	7 ₂₇₀	<code>\printdefs</code>	7 ₂₂₉	<code>\upperbound</code>	13 ₅₂₀
<code>\dordef</code>	11 ₄₂₄	<code>\printuserleveldefs</code>	7 ₂₂₅	<code>\usedef</code>	11 ₄₃₅
<code>\doublecolumns</code>	8 ₃₀₉	<code>\pt</code>	15 ₆₂₁		
<code>\em</code>	15 ₆₂₃	<code>\quadcolumns</code>	8 ₃₁₁		

Definitions

`\@` 1₁₂, 1₇, 1₉, 11₄₄₈, 15₆₂₉, 15₆₃₀
`\@endcolumns` 9₃₂₁
`\@Alpha` 4₁₄₄
`\@Ialpha` 5₁₅₄
`\@Roman` 4₁₄₂
`\@alph` 4₁₄₃
`\@arabic` 4₁₄₀
`\@bsphack` 6₁₈₅, 6₁₉₃, 6₂₀₀, 6₂₀₂, 7₂₆₆, 7₂₇₀, 7₂₇₄
`\@chunkfile` 7₂₇₂, 7₂₇₃, 7₂₇₄
`\@columns` 8₃₀₉, 8₃₁₀, 8₃₁₁
`\@columnsplit` 10₃₈₀, 10₃₉₃
`\@ctrerr` 5₁₅₃, 5₁₅₈
`\@defsfile` 7₂₆₈, 7₂₆₉, 7₂₇₀
`\@esphack` 6₁₉₁, 6₁₉₅
`\@glossaryfile` 6₁₉₈, 6₁₉₉, 6₂₀₀
`\@ialph` 5₁₄₉
`\@idxitem` 7₂₄₃, 7₂₄₉, 7₂₅₅
`\@index` 6₁₉₃
`\@indexfile` 6₁₈₃, 6₁₈₄, 6₁₈₅
`\@nameuse` 4₁₄₀, 4₁₄₁, 4₁₄₂, 4₁₄₃, 4₁₄₄
`\@endcolumns` 8₃₀₈, 9₃₁₄, 9₃₁₉, 9₃₂₁, 10₃₈₇
`\@ne` 5₁₆₁, 8₂₈₅
`\@partialpage` 9₃₃₀, 9₃₄₃, 9₃₄₇, 9₃₅₃
`\@roman` 4₁₄₁
`\@sanitize` 6₁₈₅, 6₁₉₃, 6₂₀₀, 6₂₀₂, 7₂₆₆, 7₂₇₀, 7₂₇₄
`\@savsf` 5₁₆₈, 5₁₇₂
`\@savsk` 5₁₆₈, 5₁₇₃
`\@userleveldefsfile` 7₂₆₄, 7₂₆₅, 7₂₆₆
`\@wrindex` 6₁₈₅, 6₂₀₀, 7₂₆₆, 7₂₇₀, 7₂₇₄
`\abovecolumnskip` 8₂₉₆, 9₃₃₁
`\active` 12₄₅₈, 12₄₅₉, 12₄₈₃, 13₅₁₄
`\advance` 3₆₈, 8₂₉₀, 9₃₂₅, 9₃₃₇, 9₃₄₄, 9₃₄₈, 10₃₉₉, 10₄₀₀, 11₄₁₅, 11₄₃₈, 14₅₆₁
`\alloc@` 4₁₃₅
`\authorfont` 1₁₅, 3₉₇
`\baselineskip` 3₇₃, 3₈₁, 3₈₈, 3₉₁, 3₉₃, 3₉₅, 3₉₈, 8₂₈₉, 8₂₉₀, 8₂₉₁, 8₂₉₂, 9₃₂₅, 9₃₄₄, 9₃₄₅, 9₃₄₆, 10₄₀₀
`\begingroup` 3₇₆, 6₁₈₅, 6₁₉₃, 6₂₀₀, 6₂₀₂, 7₂₄₀, 7₂₄₆, 7₂₅₂, 7₂₆₆, 7₂₇₀, 7₂₇₄, 9₃₂₀, 10₄₀₃, 12₄₇₀, 12₄₇₄, 13₅₀₅, 13₅₁₃, 15₅₉₅
`\belowcolumnskip` 8₂₉₇, 9₃₁₄
`\bf` 7₂₅₇, 15₅₉₀
`\bfit` 12₄₇₀
`\bgroup` 14₅₄₈, 15₅₈₇, 15₅₉₀, 15₅₉₂
`\bigskip` 13₅₀₄, 13₅₁₂
`\bigskipamount` 8₂₉₆, 8₂₉₇
`\botofcontents` 3₈₆
`\box` 10₃₅₇, 10₃₆₃, 10₃₆₉, 10₃₇₅, 10₃₈₉, 10₃₉₂, 14₅₃₉, 14₅₆₁, 14₅₆₃
`\c@lumnhsiz` 9₃₃₆, 9₃₃₇, 9₃₃₈, 9₃₄₂
`\c@lumnoutp` 9₃₃₉
`\catcode` 1₄, 1₆, 1₉, 5₁₇₆, 12₄₅₈, 12₄₅₉, 12₄₆₄, 12₄₆₅, 12₄₆₆, 12₄₆₇, 12₄₆₈, 12₄₈₃, 13₅₁₄, 15₅₈₇, 15₆₃₀
`\chapterfont` 1₁₃, 4₁₂₅
`\char` 14₅₅₈
`\chartstrut` 14₅₄₉
`\closein` 6₂₁₇
`\closeout` 11₄₄₉
`\cont` 4₁₁₀, 11₄₄₈, 11₄₄₉, 15₆₂₇, 15₆₂₈, 15₆₂₉, 15₆₃₀
`\copy` 10₄₀₆
`\count@` 2₅₇, 2₅₈, 3₆₈, 14₅₄₇, 14₅₅₈, 14₅₆₁
`\cr` 13₅₃₆, 14₅₃₉, 14₅₄₂, 14₅₅₀, 14₅₅₆, 15₅₈₇
`\crcr` 15₅₈₉
`\csname` 1₆, 4₁₃₈, 5₁₆₁, 11₄₂₃, 11₄₃₃
`\dimen` 9₃₅₅, 10₃₆₁, 10₃₆₇, 10₃₇₃, 10₃₉₈, 10₃₉₉, 10₄₀₀, 10₄₀₁, 11₄₀₇, 11₄₀₈, 11₄₁₀, 11₄₁₃, 11₄₁₅
`\dimen@` 3₆₈, 3₆₉
`\divide` 8₂₉₁, 9₃₃₈, 9₃₄₅, 10₄₀₁
`\dordef` 11₄₂₃
`\dp` 9₃₅₅, 10₃₆₁, 10₃₆₇, 10₃₇₃, 14₅₆₀
`\E` 6₁₉₀
`\egroup` 14₅₅₆, 15₅₈₉
`\eject` 4₁₂₅, 7₂₂₇, 7₂₃₁, 7₂₃₅, 9₃₂₇, 9₃₃₃, 10₃₉₁, 13₅₂₉
`\else` 2₄₇, 3₆₅, 5₁₄₉, 5₁₅₃, 5₁₅₄, 5₁₅₈, 6₂₁₆, 9₃₂₈, 11₄₃₉, 12₄₆₁, 13₅₂₇, 14₅₆₀, 15₆₀₁, 15₆₀₆, 15₆₀₉, 15₆₁₁
`\end` 12₄₅₅
`\endcolumns` 9₃₁₆
`\endcsname` 1₄, 1₆, 4₁₃₈, 5₁₆₁, 11₄₂₃, 11₄₃₃
`\endgraf` 12₄₈₈
`\endgroup` 3₇₉, 6₁₉₁, 6₁₉₅, 7₂₆₀, 10₃₉₆, 11₄₁₇, 12₄₇₁, 12₄₈₄, 13₅₀₈, 13₅₁₆, 15₆₁₇
`\escapechar` 11₄₄₄
`\evenline` 14₅₅₂, 14₅₆₇, 14₅₆₉, 14₅₇₁, 14₅₇₃, 14₅₇₅, 14₅₇₇, 14₅₇₉, 14₅₈₁
`\exhyphenpenalty` 3₉₀, 4₁₁₆
`\expandafter` 1₄, 4₁₂₂, 5₁₄₈, 9₃₂₃, 10₃₉₅, 11₄₂₃, 11₄₃₃
`\fam` 8₂₈₀, 8₂₈₅
`\fi` 2₄₉, 3₇₀, 4₁₀₃, 5₁₄₆, 5₁₄₉, 5₁₅₃, 5₁₅₄, 5₁₅₈, 5₁₆₈, 5₁₇₃, 5₁₇₄, 6₂₀₁, 6₂₂₀, 9₃₃₄, 10₃₅₈, 10₃₅₉, 10₃₆₄, 10₃₆₅, 10₃₇₀, 10₃₇₁, 10₃₇₆, 10₃₇₇, 11₄₁₁, 11₄₁₄, 11₄₃₇, 11₄₄₁, 12₄₅₃, 12₄₆₁, 13₅₃₀, 13₅₃₁, 14₅₆₀, 15₆₀₃, 15₆₁₃, 15₆₁₅, 15₆₁₆
`\filename` 2₄₅
`\folio` 2₄₀
`\font` 1₁₃, 1₁₄, 1₁₅, 1₁₆, 1₁₇, 2₁₉, 2₂₀, 2₂₁, 2₂₂, 2₂₃, 2₂₄, 2₂₅, 2₂₆, 2₂₇, 2₂₈, 2₂₉, 2₃₀, 2₃₁, 15₅₉₉
`\fontdimen` 15₅₉₉
`\footline` 2₅₁
`\frenchspacing` 15₆₂₅
`\fullpagesfalse` 15₆₂₆
`\futurelet` 15₆₁₈
`\gdef` 5₁₆₁, 12₄₅₈, 12₄₅₉, 12₄₇₃, 12₄₈₄, 14₅₈₆
`\global` 5₁₆₁, 9₃₂₁, 9₃₂₃, 9₃₂₉, 9₃₃₀, 9₃₃₅, 9₃₃₆, 9₃₃₇, 9₃₃₈, 9₃₃₉, 9₃₄₀, 9₃₄₁, 9₃₄₈, 9₃₄₉, 9₃₅₂, 10₃₈₄, 10₃₈₇, 10₃₈₉, 10₃₉₂, 10₃₉₄, 10₃₉₅, 11₄₀₇, 11₄₀₈, 11₄₁₀, 11₄₁₃, 11₄₁₅, 11₄₂₅, 11₄₃₈, 12₄₅₆, 12₄₆₁, 14₅₄₇, 14₅₆₁
`\gobble` 8₂₉₄
`\gobblemeaning` 4₁₂₂
`\gtempa` 6₁₉₁
`\gutter` 8₂₉₈, 9₃₃₇
`\H` 13₅₃₃
`\halign` 14₅₄₈, 15₅₈₇
`\hangindent` 6₂₀₄, 6₂₀₅, 6₂₀₆
`\hbox` 2₄₃, 2₄₆, 2₅₃, 2₅₄, 10₃₅₇, 10₃₆₃, 10₃₆₉, 10₃₇₅, 13₅₃₂, 13₅₃₃, 14₅₃₉, 14₅₅₈, 14₅₆₃, 15₅₉₈, 15₆₁₉
`\headline` 2₄₂
`\hex` 14₅₃₉, 14₅₅₅, 14₅₅₆
`\hfil` 2₄₅, 2₄₆, 2₄₈, 2₅₁, 2₅₃, 10₃₆₃, 10₃₆₉, 10₃₇₅, 14₅₅₀, 15₅₈₇
`\hfuzz` 8₂₈₈

`\hoffset` 2₃₂
`\hrule` 3₉₄, 14₅₄₂
`\hrulefill` 14₅₃₈
`\hsize` 2₃₃, 2₃₇, 3₉₄, 8₂₈₈,
9₃₃₆, 9₃₄₀, 9₃₄₂, 10₃₈₁,
14₅₄₈
`\hskip` 4₁₁₁, 6₂₀₅, 6₂₀₆
`\hss` 2₄₉, 2₅₄
`\ht` 9₃₄₃, 9₃₄₇, 10₃₉₈, 11₄₁₅,
14₅₅₉, 15₅₉₉
`\htp@rtialpage` 9₃₄₃, 9₃₄₄,
9₃₄₅, 9₃₄₆, 9₃₄₇, 9₃₄₈
`\hyphenpenalty` 3₉₀, 4₁₁₆
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