This is a list of all substantial corrections made to *Computers & Typesetting* from the mid-1990s until the first "Millennium edition" was published at the end of the year 2000. Corrections made to the softcover version of *The TEXbook* are the same as corrections to Volume A. Corrections to the softcover version of *The METAFONTbook* are the same as corrections to Volume C. Changes to the mini-indexes and master indexes of Volumes B, D, and E are not shown here unless they are not obviously derivable from what has been shown.

Page A3, line 14 (in certain printings only) (9/6/00)

---

that looks like ' or ´.

Page A8, lines 14 and 15 (9/6/00)

---

that is not to be ignored. Notice that \␣ is a control sequence of the second kind, namely a control symbol, since there is a single nonletter (␣) following

---

Page A43, line −17 (8/4/98)

---

into your manuscript, if the b-key on your keyboard is broken. (An optional

---

Page A88, lines 14, 16, 18, and 21 (8/12/00)

[Insert two blank spaces between '`blank space`' and '`}`']

Page A96, lines 9 and 10 (8/6/98)

Before 1998, some German words changed their spelling when split between lines. For example, 'backen' became 'bak-ken' and 'Bettuch' sometimes became 'Bett-

---

Page A107, line 2 (8/5/98)

---

ually, you might be tempted to set `\tolerance=10000`; this allows arbitrarily bad

---

Page A115, line −19 (8/5/98)

If there's no room for such an insertion on this page, TEX will insert it at the top of

---

Page A119, line 15 (8/5/98)

---

of `\dimen3`, assuming that `\dimen3` is positive.

Page A182, middle line of the displayed commutative diagram (12/3/99)

$$0 \longrightarrow \mathcal{O}_C \xrightarrow{\pi} \pi_*\mathcal{O}_D \xrightarrow{\delta} R^1 f_*\mathcal{O}_V(-D) \longrightarrow 0$$

Page A233, line −2 (8/5/98)

---

could avoid this by adding `\hskip 0pt minus-1fil`; then an oversize text would

Page A277, line 1 (8/5/98)

⟨code assignment⟩ ⟶ ⟨codename⟩⟨8-bit number⟩⟨equals⟩⟨number⟩

Page A277, line −11 (8/5/98)

[Move this line, which defines ⟨at clause⟩, up to the top of the page.]

Page A289, line 24 (2/3/97)

⟨math field⟩ ⟶ ⟨filler⟩⟨math symbol⟩ | ⟨filler⟩`{`⟨math mode material⟩`}`

Page A309, line 3 (8/12/97)

8.4. `$`$_3$ `x`$_{11}$ `^`$_7$ `2`$_{12}$ `$`$_3$ `~`$_{13}$ ␣$_{10}$ `TeX` `b`$_{11}$ `v`$_{11}$ ␣$_{10}$. The final space comes from the

Page A313, line 24 (9/19/00)

stands for '`\par\vfill...`', so the next three commands are

Page A313, line 27 (9/19/00)

```
{vertical mode: \par}
```

Page A318, lines 12 and 13 (8/5/98)

15.8.
```
\advance\dimen2 by\ifnum\dimen2<0 -\fi.5\dimen3
\divide\dimen2 by\dimen3 \multiply\dimen2 by\dimen3
```

Page A325, line 22 (12/3/99)

```
0&\mapright{}&{\cal O}_C&\mapright\pi&
```

Page A337, line 3 from the bottom (9/6/00)

DONALD E. KNUTH, *The TEXbook* (1984)

Page A348, lines 14–16 (8/6/98)

```
 \def\@if#1{true}{\let#1=\iftrue}%
\expandafter\expandafter\expandafter
 \def\@if#1{false}{\let#1=\iffalse}%
```

Page A356, line 21 (8/6/98)

```
\def\AA{\leavevmode\setbox0=\hbox{!}\dimen@=\ht0 \advance\dimen@ by-1ex
```

Page A356, lines 9–21 from the bottom (8/6/98)

```
\def\S{\mathhexbox278} \def\P{\mathhexbox27B} \def\Orb{\mathhexbox20D}
\def\oalign#1{\leavevmode\vtop{\baselineskip0pt \lineskip.25ex
  \ialign{##\crcr#1\crcr}}} \def\o@lign{\lineskiplimit=0pt \oalign}
\def\ooalign{\lineskiplimit=-\maxdimen \oalign} % chars over each other
{\catcode`p=12 \catcode`t=12 \gdef\\#1pt{#1}} \let\getf@ctor=\\
\def\sh@ft#1{\dimen@=#1 \kern\expandafter\getf@ctor\the\fontdimen1\font
  \dimen@} % kern by #1 times the current slant
\def\d#1{{\o@lign{\relax#1\crcr\hidewidth\sh@ft{-1ex}.\hidewidth}}}
\def\b#1{{\o@lign{\relax#1\crcr\hidewidth\sh@ft{-3ex}%
    \vbox to.2ex{\hbox{\char'26}\vss}\hidewidth}}}
\def\c#1{{\setbox0=\hbox{#1}\ifdim\ht0=1ex \accent'30 #1%
  \else\ooalign{\unhbox0\crcr\hidewidth\char'30\hidewidth}\fi}}
\def\copyright{{\ooalign{\hfil\raise.07ex\hbox{c}\hfil\crcr\Orb}}}
```

Page A364, line 9 (8/9/98)

```
\def\makefootline{\baselineskip=24pt \lineskiplimit=0pt
    \line{\the\footline}}
```

Page A364, line 4 from the bottom (8/6/98)

```
\def\fmtversion{3.1415926} % identifies the current format
```

Page A447, bottom line (6/3/98)

— JOHN SMITH, *The Printer's Grammar* (1755)

Page A450, lines 11–13 (4/12/98)

between '`e`' and '`n`' there are five relevant values in this case (2 from ${}_0\mathtt{h}_0\mathtt{e}_2\mathtt{n}_0$, 0 from ${}_0\mathtt{h}_0\mathtt{e}_0\mathtt{n}_0\mathtt{a}_4$, 0 from ${}_0\mathtt{h}_0\mathtt{e}_0\mathtt{n}_5\mathtt{a}_0\mathtt{t}_0$, 1 from ${}_1\mathtt{n}_0\mathtt{a}_0$, and 0 from ${}_0\mathtt{n}_2\mathtt{a}_0\mathtt{t}_0$); the maximum of these is 2. The result of all the maximizations is

Page A453, line 6 (8/5/98)

tion dictionary, except that plain TEX blocks hyphens after the very first letter or be-

Page A458, left column (9/6/00)

Page A458, right column (7/5/99)

Page A464, right column (8/6/98)

*\edef, *215–216*, 275, *328*, *373–374*.

Page A466, right column (8/8/98)

\getfactor, *356*, 375, *398*.

Page A467, right column (8/5/98)

*\hfilneg, 72, 100, 283, 285, 290, 397.

Page A469, left column (8/5/98)

italic type, 13–14, 100, 127, 165, 409, 428, 430.

Page A469–A477, passim (5/13/98)

Add page 272 to the index entries for \lastskip, \pagedepth, \pagefilllstretch, \pagefillstretch, \pagefilstretch, \pagegoal, \pageshrink, \pagestretch, \pagetotal, \parshape, \prevdepth, and \spacefactor.

Also change '369' to '370' in the index entries for \lbrack, \lq, \rbrack, \rq, \sb, and \sp.

Also change 'Luckombe, Philip' to 'Smith, John'.

Page A472, right column (8/6/98)

*\noexpand, 209, 213, 215, 216, *377*, *424*.

Page A473, left column (8/6/98)

\Orb (◯), 356.

Page Bix, line 16 (1/16/00)

- "Word hy-phen-a-tion by com-put-er" by Franklin Mark Liang, Stan-

Page Bxiv, line 13 (4/19/96)

preprocessor converts these into numeric constants that are 256 or more. This

Page Bxiv, line −1 (4/19/96)

This file contains one line per string, starting with string number 256, then number 257,

Page Bxv, lines 10 and 11 (4/19/96)

In this case, occurrences of "" in the WEB program will be replaced by 256; occurrences of "This longer string" will be replaced by 257. The symbol @$ stands for the numeric

Page B2, line −10 (3/8/95)

define *banner* ≡ ´This␣is␣TeX,␣Version␣3.14159´ { printed when TEX starts }

Page B169, line 13 (9/22/95)

something in a "muskip" register, or to one of the three parameters `\thinmuskip`, `\medmuskip`,

Page B221, line 9 (3/4/95)

define *non_address* = 0 { a spurious *bchar_label* }

Page B221, line 17 (3/4/95)

font_params: **array**[*internal_font_number*] **of** *font_index*; { how many font parameters are present }

Page B256, insert new line 12 before the bottom (3/7/95)

glue_temp: *real*; { glue value before rounding }

Page B258, line 11 before the bottom becomes four lines (3/7/95)

625. **define** *billion* ≡ *float_constant*(1000000000)
define *vet_glue*(#) ≡ *glue_temp* ← #;
if *glue_temp* > *billion* **then** *glue_temp* ← *billion*
else if *glue_temp* < −*billion* **then** *glue_temp* ← −*billion*
⟨ Move right or output leaders 625 ⟩ ≡

Page B258, lines 3–6 from the bottom (3/7/95)

begin *vet_glue*(*float*(*glue_set*(*this_box*)) ∗ *stretch*(*g*));
rule_wd ← *rule_wd* + *round*(*glue_temp*);
end;
end
else if *shrink_order*(*g*) = *g_order* **then**
begin *vet_glue*(*float*(*glue_set*(*this_box*)) ∗ *shrink*(*g*));
rule_wd ← *rule_wd* − *round*(*glue_temp*);

Page B260, line 13 from the bottom (6/26/93)

doing_leaders ← *outer_doing_leaders*; *dvi_v* ← *save_v*; *dvi_h* ← *save_h*; *cur_v* ← *base_line*;

Page B261, insert new line after line 7 (3/7/95)

glue_temp: *real*; { glue value before rounding }

Page B262, lines 3–6 from the bottom (3/7/95)

begin *vet_glue*(*float*(*glue_set*(*this_box*)) ∗ *stretch*(*g*));
rule_ht ← *rule_ht* + *round*(*glue_temp*);
end;
end
else if *shrink_order*(*g*) = *g_order* **then**
begin *vet_glue*(*float*(*glue_set*(*this_box*)) ∗ *shrink*(*g*));
rule_ht ← *rule_ht* − *round*(*glue_temp*);

Page B264, line 22 (6/26/93)

doing_leaders ← *outer_doing_leaders*; *dvi_v* ← *save_v*; *dvi_h* ← *save_h*; *cur_h* ← *left_edge*;

Page B297, line 11 (3/7/95)

width(*p*) ← *mu_mult*(*width*(*p*)); *subtype*(*p*) ← *explicit*;

Page B309, line 7 (9/22/95)

if *cur_style* < *text_style* **then** { display style }

Page B356, line −5 (3/4/95)

hang_after = 1, and *hang_indent* = 0. Note that if *hang_indent* = 0, the value of *hang_after* is

Page B388, bottom line (3/4/95)

if *bchar_label*[*hf*] ≠ *non_address* **then** { put left boundary at beginning of new line }

Page B406, line 10 (5/1/98)

$q \leftarrow p$; { now node q represents $p_1 \ldots p_{l-1}$ }

Page B503, line 12 (3/4/95)

of the following procedure. (Exception: The tabskip glue isn't trapped while preambles are being scanned.)

Page B529, line 12 (3/4/95)

undump(0)(*fmem_ptr* − 1)(*bchar_label*[*k*]);
undump(*min_quarterword*)(*non_char*)(*font_bchar*[*k*]);

Page B531, line 2 (11/23/98)

from appearing again.

Page B531, line 14 (11/23/98)

print_int(*year*); *print_char*("."); *print_int*(*month*); *print_char*("."); *print_int*(*day*);

Page B534, insert new material between lines −16 and −15 (3/20/95)

while *input_ptr* > 0 **do**
  if *state* = *token_list* **then** *end_token_list* **else** *end_file_reading*;

Page B534, line −2 (3/20/95)

temp_ptr ← *cond_ptr*; *cond_ptr* ← *link*(*cond_ptr*); *free_node*(*temp_ptr*, *if_node_size*);

Page B535, line 9 (3/20/95)

begin init for $c \leftarrow$ *top_mark_code* **to** *split_bot_mark_code* **do**
if *cur_mark*[c] $\neq$ *null* **then** *delete_token_ref* (*cur_mark*[c]);
store_fmt_file; **return**; **tini**

Page B581, Zabala entry (8/19/00)

Zabala Salelles, Ignacio Andrés: 2.

Page C17, lines 12 and 13 (9/6/00)

draw $z_4\{\text{curl}\,0\} \mathinner{..} z_2\{z_3 - z_4\} \mathinner{..} \{\text{curl}\,0\}\, z_3$;
draw $z_4\{\text{curl}\,2\} \mathinner{..} z_2\{z_3 - z_4\} \mathinner{..} \{\text{curl}\,2\}\, z_3$

Page C23, line −7 (8/5/98)

$x_1 = ss = w - x_5; \quad y_3 - y_1 = ygap$

Page C69, line 17 (9/6/00)

`"abra"`, while p_1 is '$(0,0) \mathinner{..} (3,3)$' and p_2 is '$(0,0) \mathinner{..} (3,3) \mathinner{..}$ cycle'.

Page C94, line −11 (3/4/95)

put are assumed to have square pixels. But if, for example, the **mode_def** sets

Page C107, line 15 (3/4/95)

labels($1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b$, **range** 1 **thru** 36); **endchar**;

Page C123, lines 21 and 22 (12/19/95)

▸**EXERCISE 14.3**
Use a *rotated* quarter-circle to produce '◜' in font position '`c`'.

Page C129, lines 6–17 (8/5/98)

⟨path primary⟩ ⟶ ⟨pair primary⟩ | ⟨path variable⟩
| `(` ⟨path expression⟩ `)`
| `reverse` ⟨path primary⟩
| `subpath` ⟨pair expression⟩ `of` ⟨path primary⟩
⟨path secondary⟩ ⟶ ⟨pair secondary⟩ | ⟨path primary⟩
| ⟨path secondary⟩⟨transformer⟩
⟨path tertiary⟩ ⟶ ⟨pair tertiary⟩ | ⟨path secondary⟩
⟨path expression⟩ ⟶ ⟨pair expression⟩ | ⟨path tertiary⟩
| ⟨path subexpression⟩⟨direction specifier⟩
| ⟨path subexpression⟩⟨path join⟩ `cycle`
⟨path subexpression⟩ ⟶ ⟨path expression⟩
| ⟨path subexpression⟩⟨path join⟩⟨path tertiary⟩

Page C134, line 8 (3/4/95)

of p; if $t \le 0$, precontrol t of p is z_0. In particular, if t is an integer, postcontrol t of p

Page C139, illustration (8/5/98)

[Remove the labels `2r`, `2`, and `2l` below their dots.]

Page C143, top two lines (3/4/95)

In order to have some transform variables to work with, it's necessary to 'hide' some declarations and commands before giving the next `expr`s:

Page C147, lines 14, 16, and 19 (9/6/00)

[Change '**savepen**' to '*savepen*'.]

Page C147, line 2 from the bottom (9/6/00)

FONT's **penrazor** stands for '**makepen** $((-.5,0)$ -- $(.5,0)$ -- cycle)', and **pensquare**

Page C171, line 19 (8/5/98)

(⟨path tertiary⟩) and (⟨pair tertiary⟩). A pair expression is not considered to

Page C172, line 14 (8/5/98)

been evaluated and changed to numeric tokens before being substituted for s.

Page C175, line 23 (1/11/88)

expand into a sequence of tokens. (The language SIMULA67 demonstrated that it is

Page C206, minor changes to lines −19 to −5 (3/4/95)

```
Path at line 15, before subdivision into octants:
(1.53745,9.05345)..controls (1.53745,4.00511) and (5.75409,-0.00049)
 ..(10.85147,-0.00049)..controls (16.2217,-0.00049) and (20.46255,4.51297)
 ..(20.46255,9.94655)..controls (20.46255,14.99713) and (16.23842,19.00049)
 ..(11.13652,19.00049)..controls (5.77066,19.00049) and (1.53745,14.48491)
 ..cycle

Cycle spec at line 15, after subdivision:
(1.53745,9.05345) % beginning in octant 'SSE'
   ..controls (1.53745,6.58786) and (2.54324,4.371)
 ..(4.16621,2.74803) % segment 0
% entering octant 'ESE'
   ..controls (5.8663,1.04794) and (8.24362,-0.00049)
 ..(10.85147,-0.00049) % segment 0
% entering octant 'ENE'
```

... and so on; there are lots more numbers! What does this all mean? Well, the first segment of the curve, from $(1.53745, 9.05345)$ to $(10.85147, -0.00049)$, has been

Page C207, minor changes to lines 1–23 (3/4/95)

```
Cycle spec at line 15, after subdivision and autorounding:
(2,9.05348) % beginning in octant 'SSE'
   ..controls (2,6.50526) and (3.02194,4.22272)
 ..(4.6577,2.58696) % segment 0
% entering octant 'ESE'
   ..controls (6.2624,0.98225) and (8.45786,0)
 ..(10.85873,0) % segment 0
% entering octant 'ENE'
```

Point $(1.53745, 9.05345)$, where there was a vertical tangent, has been rounded to $(2, 9.05348)$; point $(10.85147, -.00049)$, where there was a horizontal tangent, has been rounded to $(10.85873, 0)$; the intermediate control points have been adjusted accordingly. (Rounding of x coordinates has been done separately from y coordinates.) Finally, with *autorounding* $= 2$, additional adjustments are made so that the 45° transition point will occur at what METAFONT thinks is a good spot:

```
Cycle spec at line 15, after subdivision and double autorounding:
(2,9.05348) % beginning in octant 'SSE'
   ..controls (2,6.6761) and (3.07103,4.42897)
 ..(4.78537,2.71463) % segment 0
% entering octant 'ESE'
   ..controls (6.46927,1.03073) and (8.62749,0)
 ..(10.85873,0) % segment 0
% entering octant 'ENE'
```

(Notice that $4.78537 + 2.71463 = 7.50000$; when the slope is -1 at a transition point

Page C210, line −7 (8/5/98)

| ⟨numeric token primary⟩

Page C210, line −2 (8/5/98)

⟨numeric token primary⟩ ⟶ ⟨numeric token⟩ `/` ⟨numeric token⟩

Page C211, line 16 (8/5/98)

| ⟨numeric token primary not followed by `+` or `-` or a numeric token⟩

Page C213, lines 17–27 (8/5/98)

⟨path primary⟩ ⟶ ⟨pair primary⟩ | ⟨path variable⟩ | ⟨path argument⟩
| `(` ⟨path expression⟩ `)`
| `begingroup` ⟨statement list⟩⟨path expression⟩ `endgroup`
| `makepath` ⟨pen primary⟩ | `makepath` ⟨future pen primary⟩
| `reverse` ⟨path primary⟩
| `subpath` ⟨pair expression⟩ `of` ⟨path primary⟩
⟨path secondary⟩ ⟶ ⟨pair secondary⟩ | ⟨path primary⟩
| ⟨path secondary⟩⟨transformer⟩
⟨path tertiary⟩ ⟶ ⟨pair tertiary⟩ | ⟨path secondary⟩
⟨path subexpression⟩ ⟶ ⟨path expression⟩
| ⟨path subexpression⟩⟨path join⟩⟨path tertiary⟩

Page C213, line −4 (8/5/98)

⟨path expression⟩ ⟶ ⟨pair expression⟩ | ⟨path tertiary⟩

Page C234, line 6 (9/6/00)

line $z_1 \mathinner{..} z_5$ that bisects $z_4 \mathinner{..} z_2$, so it starts out in a south-by-southwesterly direction;

Page C246, line 5 of answer 14.15 (8/5/98)

/ length(postcontrol t of p − point t of p) **enddef**;

Page C246, line 10 of answer 14.15 (8/5/98)

/ length(precontrol t of p − point t of p) **enddef**;

Page C252, line −6 (8/5/98)

$h + o$ and *bot* $y_4 = -o$, so nothing needs to be done there. We should, however, say

Page C257, large display on line 5 (3/4/95)

$$\left\{\begin{array}{c}\texttt{boolean}\\ \texttt{numeric}\\ \texttt{pair}\\ \texttt{path}\\ \texttt{pen}\\ \texttt{picture}\\ \texttt{string}\\ \texttt{transform}\end{array}\right\}\langle\text{expression}\rangle;\quad \left\{\begin{array}{c}\langle\text{boolean}\rangle\\ \langle\text{numeric}\rangle\\ \langle\text{pair}\rangle\\ \langle\text{string}\rangle\\ \langle\text{transform}\rangle\end{array}\right\}\left\{\begin{array}{c}\texttt{<}\\ \texttt{<=}\\ \texttt{=}\\ \texttt{<>}\\ \texttt{>=}\\ \texttt{>}\end{array}\right\}\left\{\begin{array}{c}\langle\text{boolean}\rangle\\ \langle\text{numeric}\rangle\\ \langle\text{pair}\rangle\\ \langle\text{string}\rangle\\ \langle\text{transform}\rangle\end{array}\right\};$$

Page C261, line −15 (8/5/98)

- *Hacks:* `gobble`, `gobbled`, `killtext`; `capsule_def`; `numtok`.

Page C286, line 15 (8/5/98)

isn't entirely expanded by **expandafter**; only METAFONT's first step in loop expansion

Page C299, line 2 (12/6/99)

$$t[u_1,\ldots,u_n] \;=\; \sum_{k=1}^{n} \binom{n-1}{k-1} (1-t)^{n-k} t^{k-1} u_k,$$

Page C299, swap lines 11 and 12 (8/5/98)

```
def lbrack = hide(delimiters []) lookahead [ enddef;
let [[[ = [; let ]]] = ]; let [ = lbrack;
```

Page C306, line 1 (11/4/98)

```
ligtable oct"013": "i" =: oct"016", "l" =: oct"017",   % ffi and ffl
```

Page C311, line 2 (8/5/98)

fine := 4 − *eps*, and *breadth*_[1] := 4 − *eps*. (A small amount *eps* has been subtracted

Page C323, line −3 (8/5/98)

statement occurs, the special string '`"title "` & ⟨title⟩' is output. (This is how the

Page C332, lines 22–24 (8/5/98)

> be replicated so that the final proofs will be *rep* times bigger than usual, and the pattern will be clipped slightly at the edges so that discrete pixels can be seen plainly.

Page C341, line 23 (10/10/96)

```
\def\:{\setbox0=\hbox{\noboundary\char\n\noboundary}%
```

Page C346, left column (9/6/00)

> ... (bounded join), 18–19, 127, 248, 262.
> ... (truncation of displayed context), 44.

Page C346, and throughout the index (3/7/95)

(Many index entries for rules of syntax in chapters 25–26 should have been underlined)

Page C350, left column (4/24/00)

Evetts, Leonard Charles, 153.

Page C351, right column (9/22/97)

`*intersectiontimes`, 136, *178*, 213, *265*, *294*, *298*.

Page C353, right column (8/5/98)

⟨numeric token atom⟩, *delete this entry.*
⟨numeric token primary⟩, 72, 210.

Page C354, left column (7/26/98)

Orwell, George (= Blair, Eric Arthur), 85.

Page C355, right column (3/7/95)

`rt`, *23*, *77*, 80, *103*, 147, 151, 273.

Page C361, lines 14–15 (4/29/97)

```
email: {\tt TUG@tug.org}
internet: {\tt http://www.tug.org/}
}
```

Page C361, bottom five lines (4/29/97)

Don't delay, subscribe today! That address again is
TEX Users Group
email: `TUG@tug.org`
internet: `http://www.tug.org/`
DONALD E. KNUTH, *The TEXbook* (1996)

Page Dix, line ix (8/19/00)

- "Interfacing with graphic objects" by Ignacio Andrés Zabala Salelles,

Page D71, line 11 of section 178 (9/13/00)

{ previous *mem_end*, *lo_mem_max*, and *hi_mem_min* }

Page D132, line 6 of section 291 (9/13/00)

$$= v_n + w_n\theta_0 - u_n\big(v_1 + w_1\theta_0 - u_1(v_2 + \cdots - u_{n-2}(v_{n-1} + w_{n-1}\theta_0 - u_{n-1}\theta_0)\ldots)\big),$$

Page D213, line 7 (9/14/00)

$(-y+\epsilon, x+y+\epsilon\delta)$. We should therefore round as if our skewed coordinates were $(x+\epsilon+\epsilon\delta, y-\epsilon)$

Page D349, line 4 of section 784 (9/14/00)

procedure *pack_job_name*(*s* : *str_number*); { *s* = `".log"`, `".gf"`, `".tfm"`, or *base_extension* }

Page D451, line 11 (9/14/00)

1040. The value of *cur_mod* controls the *verbosity* in the *print_exp* routine: If it's *show_code*,

Page D464, bottom line (9/14/00)

long_help_seen: *boolean*; { has the long **errmessage** help been used? }

Page D551, Zabala entry (8/19/00)

Zabala Salelles, Ignacio Andrés: 812.

Page Exiii, lines 3 and 4 from the bottom (7/17/98)

▪ "Metamarks: Preliminary studies for a Pandora's Box of shapes" by Neenie Billawala, Stanford Computer Science report 1256 (Stanford, California,

Page E87, bottom line (6/4/98)

— JOHN SMITH, *The Printer's Grammar* (1755)

Page E95, line 16 (8/8/98)

-- z_{1r} -- z_{1l} -- **subpath** $(t,0)$ **of** $(z_{3l}\{z_9-z_3\}\,..\,z_{5r})$

Page E95, line 11 from the bottom (8/8/98)

-- z_{1r} -- z_{1l} -- **subpath** $(t,0)$ **of** $(z_{3r}\{z_9-z_3\}\,..\,z_{5r})$

Page E95, line 8 from the bottom (3/6/95)

cmchar `"Extensible vertical arrow--extension module"`;

Page E97, line 8 from the bottom (3/6/95)

cmchar `"Extensible double vertical arrow--extension module"`;

Page E113, line 9 (3/6/95)

$x_5=.5[x_4,x_6]$; $x_4-x_6=1.2u$; *lft* $x_{5r}=\text{hround}(.5w-.5curve)$;

Page E113, line 10 from the bottom (3/6/95)

$x_5=.5[x_4,x_6]$; $x_4-x_6=4.8u$; *lft* $x_{5r}=\text{hround}(.5w-.5max\_size)$;

Page E115, line 9 (3/6/95)

$x_5=.5[x_4,x_6]$; $x_4-x_6=1.2u$; *lft* $x_{5r}=\text{hround}(.5w-.5curve)$;

Page E115, line 12 from the bottom (3/6/95)

$x_5=.5[x_4,x_6]$; $x_4-x_6=4.8u$; *lft* $x_{5r}=\text{hround}(.5w-.5max\_size)$;

Page E147, lines 11–14 from the bottom (7/7/97)

$pos_3(.8[hair, stem], 0)$; $pos_4(vair, -90)$; $pos_5(hair, -180)$;
$pos_6(vair, -270)$; $pos_7(stem, -360)$; $pos_8(vair, -450)$; $pos_9(hair, -540)$;
$x_0 = x_1 = x_9$; $lft\ x_{0l} = \text{hround}(1.5u - .5hair)$; $x_2 = x_4 = x_6 = x_8 = .5w - .25u$;
$rt\ x_{3r} = \text{hround}(w - 1.75u)$; $rt\ x_{7r} = \text{hround}(w - u)$;

Page E147, line 8 from the bottom (7/7/97)

$y_5 = .5[y_4, y_6]$; $top\ y_{6r} - bot\ y_{4r} = vstem + eps$; $bot\ y_8 = -oo$; $y_7 = y_9 = .55[y_6, y_8]$;

Page E165, line 6 (2/8/97)

$y_1 + .5hair = h$; $x_1 = x_2 + .75u$; $pos_1(hair + dw, \text{angle}(2(x_1 - x_2), y_1 - y_2) + 90)$;

Page E165, line 10 (2/8/97)

$x_3 = .5[x_2, x_4]$; $x_7 - .25u = .5[x_6, x_8]$; $rt\ x_{8r} = \text{hround}(w - .5u)$;

Page E187, line 9 (3/6/95)

$lft\ x_{1l} = lft\ x_{2l} = \text{hround}(.5w - .5shaved\_stem)$; $top\ y_1 = h$; $bot\ y_2 = 0$;

Page E189, line 8 (3/6/95)

$lft\ x_{1l} = lft\ x_{2l} = \text{hround}(.5w - .5shaved\_stem)$; $top\ y_1 = h$; $bot\ y_2 = 0$;

Page E233, line 21 (3/6/95)

path p; {{**interim** $superness := more\_super$; $p = pulled\_super\_arc_l(3,4)(pull)$}};

Page E237, line 5 (8/6/98)

$lft\ x_1 = \text{hround}\, .5u$; $x_2 = w - x_1$; $y_1 = y_2 = good.y\ .7[x\_height, asc\_height]$;

Page E239, line 7 from the bottom (3/6/95)

$lft\ x_{6r} = \text{hround}\, u$; $x_7 = 3u$; $x_8 = w - 3.5u$; $rt\ x_{9l} = \text{hround}(w - u)$;

Page E253, line 2 from the bottom (8/9/98)

$.. z_{3e}\{down\} .. \{z_{5l} - z_{4l}\}z_{4e}$ -- z_{5e} -- z_{6e}; % stroke

Page E263, line 21 (5/10/98)

path p; {{**interim** $superness := more\_super$; $p = pulled\_super\_arc_l(3,4)(pull)$}};

Page E289, line 2 from the bottom (8/9/98)

$.. z_{3e}\{down\} .. \{z_{5l} - z_{4l}\}z_{4e}$ -- z_{5e} -- z_{6e}; % stroke

Page E291, line 18 (3/6/95)

$x_4 = {}^1\!/_3[x_5, x_{3l}];\ \ z_4 = z_5 + whatever * (15u, .1h);$

Page E297, line 17 (5/10/98)

path p; {{**interim** $superness := more\_super$; $p = pulled\_super\_arc_l(3,4)(pull)$}};

Page E303, line 17 (5/10/98)

path p; {{**interim** $superness := more\_super$; $p = pulled\_super\_arc_l(3,4)(pull)$}};

Page E309, line 7 from the bottom (5/8/98)

$y_{@0} = y_{@2l} - bracket - eps;$

Page E313, line 7 from the bottom (5/8/98)

$y_{@0} = y_{@2l} + bracket + eps;$

Page E319, line 8 (5/11/98)

$loop\_top =$ **if** $serifs$: Vround $.77[vair, fudged.stem]$ **else**: $vair$ **fi**;

Page E373, lines 5 and 6 from the bottom (7/13/97)

$top\ y_{1r} = \text{vround}\, .95h + oo;\ \ top\ y_{2r} = h + oo;\ \ y_3 = .5h;$
$bot\ y_{4r} = -oo;\ \ bot\ y_{5r} = \text{vround}\, .08h - oo;\ \ y_{5l} := good.y\, y_{5l};\ \ x_{5l} := good.x\, x_{5l};$

Page E381, lines 11 and 12 from the bottom (7/13/97)

$top\ y_{1r} = \text{vround}\, .93h + oo;\ \ top\ y_{2r} = h + oo;\ \ y_3 = .5h;$
$bot\ y_{4r} = -oo;\ \ bot\ y_{5r} = \text{vround}\, .07h - oo;$

Page E389, bottom two lines (8/7/98)

numeric $aa\_, bb\_, cc\_;\ \ bb\_ = b/y;\ \ cc\_ = c/y;\ \ aa\_ = a * a - bb\_ * bb\_;$
$(a * (cc\_ +\!+ \text{sqrt}\ aa\_) - bb\_ * cc\_)/aa\_$ **enddef**;

Page E423, line 17 (8/8/98)

$x_{13} = x_{11} - .5;\ \ top\ y_{14r} = \min({}^{10}\!/_7 x\_height + .5 bulb\_diam, h) + 1;\ \ top\ y_{11} = x\_height;$

Page E427, line 21 (8/8/98)

$x_{23} = x_{21} - .5;\ \ top\ y_{24r} = \min({}^{10}\!/_7 x\_height + .5 bulb\_diam, h) + 1;\ \ top\ y_{21} = x\_height;$

Page E431, lines 18 and 19 (8/8/98)

filldraw z_0 -- (x_0, y_{2l}) -- $z_{1l}\{right\}..\{left\}z_{1r}$
-- **subpath** $(t, 0)$ **of** $(z_{3r}..\{2(x_0 - x_3), y_0 - y_3\}z_{5r})$

Page E431, line 2 from the bottom (8/8/98)

-- $z_{1l}\{right\}..\{left\}z_{1r}$ -- (x_0, y_{2r}) -- cycle; % arrowhead and stem

Page E433, lines 13 and 14 (8/8/98)

filldraw z_0 -- (x_0, y_{2l}) -- $z_{1l}\{left\}..\{right\}z_{1r}$
-- **subpath** $(t, 0)$ **of** $(z_{3l}..\{2(x_0 - x_3), y_0 - y_3\}z_{5r})$

Page E433, line 2 from the bottom (8/8/98)

-- $z_{1l}\{left\}..\{right\}z_{1r}$ -- (x_0, y_{2r}) -- cycle; % arrowhead and stem

Page E463, line 15 (8/8/98)

--- $z_{1r}..z_{1l}$ --- **subpath** $(t, 0)$ **of** $(z_{3r}\{z_9 - z_3\}..z_{5r})$

Page E463, line 3 from the bottom (8/8/98)

--- $z_{1r}..z_{1l}$ --- **subpath** $(t, 0)$ **of** $(z_{3l}\{z_9 - z_3\}..z_{5r})$

Page E465, line 16 (8/8/98)

--- $z_{1l}..z_{1r}$ --- **subpath** $(t, 0)$ **of** $(z_{3r}\{z_9 - z_3\}..z_{5r})$

Page E465, line 3 from the bottom (8/8/98)

--- $z_{1l}..z_{1r}$ --- **subpath** $(t, 0)$ **of** $(z_{3l}\{z_9 - z_3\}..z_{5r})$

Page E467, line 18 (8/8/98)

--- $z_{1l}..z_{1r}$ --- **subpath** $(t, 0)$ **of** $(z_{3r}\{z_9 - z_3\}..z_{5r})$

Page E467, line 3 from the bottom (8/8/98)

--- $z_{11l}..z_{12r}$ --- **subpath** $(t, 0)$ **of** $(z_{13l}\{z_{19} - z_{13}\}..z_{15r})$

Page E483, lines 12–14 from the bottom (3/6/95)

beginarithchar(oct "004"); **pickup** *fine.nib*; **pickup** *rule.nib*;
numeric *del*; *del* = *dot_size* − *currentbreadth*; % *currentbreadth* = *fine*
$x_3 - .5del = good.x(.5w - .5del)$; *center_on*$(x_3)$;
$y_3 + .5del = good.y(math\_axis + math\_spread[.5x\_height, .6x\_height] + .5del)$;

Page E485, bottom line (6/4/98)

— JOHN SMITH, *The Printer's Grammar* (1755)

Page E489, line 4 (8/8/98)

lft x_6 = hround u; $x_2 = w - x_6$; *top* $y_8 = h$; $y_8 - y_4 = x_2 - x_6$;

Page E489, line 10 (8/8/98)

lft $x_6 = \text{hround}\, u$; $x_2 = w - x_6$; *top* $y_8 = h$; $y_8 - y_4 = x_2 - x_6$; *circle_points*;

Page E491, line 3 from the bottom (3/6/95)

spread := 2ceiling(*spread*# ∗ *hppp*/2) + *eps*; **enddef**;

Page E507, line 15 (8/8/98)

--- $z_{1r} .. z_{1l}$ --- **subpath** $(t, 0)$ **of** $(z_{3r}\{z_9 - z_3\} .. z_{5r})$

Page E507, line 3 from the bottom (8/8/98)

--- $z_{11r} .. z_{11l}$ --- **subpath** $(t, 0)$ **of** $(z_{13l}\{z_{19} - z_{13}\} .. z_{15r})$

Page E509, line 17 (8/8/98)

--- $z_{1l} .. z_{1r}$ --- **subpath** $(t, 0)$ **of** $(z_{3l}\{z_9 - z_3\} .. z_{5r})$

Page E509, lines 3 and 4 from the bottom (8/8/98)

--- $z_{1l} .. z_{1r}$ --- **subpath** $(t, 0)$ **of** $(z_{3l}\{z_9 - z_3\} .. z_{5r})$

Page E511, line 17 (8/8/98)

--- $z_{1l} .. z_{1r}$ --- **subpath** $(t, 0)$ **of** $(z_{3l}\{z_9 - z_3\} .. z_{5r})$

Page E511, lines 3 and 4 from the bottom (8/8/98)

--- $z_{1l} .. z_{1r}$ --- **subpath** $(t, 0)$ **of** $(z_{3l}\{z_9 - z_3\} .. z_{5r})$

Page E541, bottom line (2/27/97)

labels$(1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15)$; **endchar**;

Page E568, the example of `cmtex8` (4/18/96)

(The word '`logician`' should not be hyphenated.)

Page E574, left column (3/6/95)

Page E575, right column (9/10/98)

Page E576, right column (6/4/98)

Delete the entry for Luckombe

Page E579, left column (6/4/98)