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.

<table>
<thead>
<tr>
<th>Page</th>
<th>Line</th>
<th>Date</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3</td>
<td>14</td>
<td>9/6/00</td>
<td>that looks like ’ or ‘.</td>
</tr>
<tr>
<td>A8</td>
<td>14 and 15</td>
<td>9/6/00</td>
<td>that is not to be ignored. Notice that \l is a control sequence of the second kind, namely a control symbol, since there is a single nonletter () following</td>
</tr>
<tr>
<td>A43</td>
<td>−17</td>
<td>8/4/98</td>
<td>into your manuscript, if the b-key on your keyboard is broken. (An optional</td>
</tr>
<tr>
<td>A88</td>
<td>14, 16, 18, and 21</td>
<td>8/12/00</td>
<td>[Insert two blank spaces between ‘blank space’ and ‘}’]</td>
</tr>
<tr>
<td>A96</td>
<td>9 and 10</td>
<td>8/6/98</td>
<td>Before 1998, some German words changed their spelling when split between lines. For example, ‘backen’ became ‘bak-ken’ and ‘Bettuch’ sometimes became ‘Bett-</td>
</tr>
<tr>
<td>A107</td>
<td>2</td>
<td>8/5/98</td>
<td>usually, you might be tempted to set \tolerance=10000; this allows arbitrarily bad</td>
</tr>
<tr>
<td>A115</td>
<td>−19</td>
<td>8/5/98</td>
<td>If there’s no room for such an insertion on this page, \TeX will insert it at the top of</td>
</tr>
<tr>
<td>A119</td>
<td>15</td>
<td>8/5/98</td>
<td>of \dimen3, assuming that \dimen3 is positive.</td>
</tr>
<tr>
<td>A182</td>
<td>middle line of the displayed commutative diagram</td>
<td>12/3/99</td>
<td></td>
</tr>
<tr>
<td>A233</td>
<td>−2</td>
<td>8/5/98</td>
<td>could avoid this by adding \hskip 0pt minus-1fil; then an oversize text would</td>
</tr>
</tbody>
</table>
Page A277, line 1 (8/5/98)

\langle code assignment \rangle \rightarrow \langle codename \rangle \langle 8\text{-}bit \ number \rangle \langle equals \rangle \langle number \rangle

Page A277, line 11 (8/5/98)

[Move this line, which defines \langle at clause \rangle, up to the top of the page.]

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

\langle math \ field \rangle \rightarrow \langle filler \rangle \langle math \ symbol \rangle | \langle filler \rangle \langle \{ \text{math \ mode \ material} \} \rangle

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

8.4. $3 \times 11 \quad 7 \ 212 \ 8 \ 13 \ 11 \ ^{10} \ \text{Tex} \ b_{11} \ v_{11} \ 11.18$. The final space comes from the

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

stands for \texttt{\par\vfill…}, so the next three commands are

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

\{vertical \ mode: \ \texttt{\par}\}

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

15.8. \texttt{\advance\dimen2 by\ifnum\dimen2<0 -\fi.5\dimen3 \divide\dimen2 by\dimen3 \multiply\dimen2 by\dimen3}

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

\texttt{0\&\mapright{}\&\{cal \ O\}_{-c}\mapright\pi\&}

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


Page A348, lines 14–16 (8/6/98)

\texttt{\def\&if#1\{true\}{{\let\#1=\iftrue}}\% \expandafter\expandafter\expandafter \expandafter\expandafter\\%}

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

\texttt{\def\&A{\leavevmode\setbox0=\hbox{!}}\dimen0=\ht0 \advance\dimen0 by-1ex}
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, \pagefillstretch, \pagefillstretch, \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)


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

\Orb ( ⃝), 356.

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

• “Word hyphenation by computer” 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 }
something in a “muskip” register, or to one of the three parameters \texttt{\thinspace \textbackslash \mskip}, \texttt{\textbackslash \mskip \medmuskip}, \texttt{\textbackslash \mskip \thickmuskip},

\begin{verbatim}
define non_address = 0 \{ a spurious \texttt{bchar \_label} \}

\begin{verbatim}
font\_params: \texttt{array[internal\_font\_number]} of \texttt{font\_index}; \{ how many font parameters are present \}
\end{verbatim}

\begin{verbatim}
glue\_temp: \texttt{real}; \{ glue value before rounding \}
\end{verbatim}

\begin{verbatim}
625. define \texttt{billion} \equiv \texttt{float\_constant}(\texttt{1000000000})
define \texttt{vet\_glue}(\#) \equiv \texttt{glue\_temp} \leftarrow \#;
\quad \texttt{if} \texttt{glue\_temp} > \texttt{billion} \texttt{then} \texttt{glue\_temp} \leftarrow \texttt{billion}
\quad \texttt{else if} \texttt{glue\_temp} < -\texttt{billion} \texttt{then} \texttt{glue\_temp} \leftarrow -\texttt{billion}
\end{verbatim}

\begin{verbatim}
\begin{verbatim}
\texttt{begin} \texttt{vet\_glue(} \texttt{float(} \texttt{glue\_set(} \texttt{this\_box})) \times \texttt{stretch(}g))\texttt{);}
\texttt{rule\_wd} \leftarrow \texttt{rule\_wd + round(} \texttt{glue\_temp})\texttt{;}
\texttt{end;}
\end{verbatim}
\end{verbatim}

\begin{verbatim}
\begin{verbatim}
\texttt{else if} \texttt{shrink\_order(g)} = \texttt{g\_order} \texttt{then}
\texttt{begin} \texttt{vet\_glue(} \texttt{float(} \texttt{glue\_set(} \texttt{this\_box})) \times \texttt{shrink(}g))\texttt{);}
\texttt{rule\_wd} \leftarrow \texttt{rule\_wd - round(} \texttt{glue\_temp})\texttt{;}
\texttt{end}
\end{verbatim}
\end{verbatim}

\begin{verbatim}
\begin{verbatim}
doing\_leaders \leftarrow outer\_doing\_leaders; \texttt{dvi\_v} \leftarrow \texttt{save\_v}; \texttt{dvi\_h} \leftarrow \texttt{save\_h}; \texttt{cur\_v} \leftarrow \texttt{base\_line};
\end{verbatim}
\end{verbatim}

\begin{verbatim}
\begin{verbatim}
glue\_temp: \texttt{real}; \{ glue value before rounding \}
\end{verbatim}
\end{verbatim}

\begin{verbatim}
\begin{verbatim}
\texttt{begin} \texttt{vet\_glue(} \texttt{float(} \texttt{glue\_set(} \texttt{this\_box})) \times \texttt{stretch(}g))\texttt{);}
\texttt{rule\_ht} \leftarrow \texttt{rule\_ht + round(} \texttt{glue\_temp})\texttt{;}
\texttt{end;}
\end{verbatim}
\end{verbatim}

\begin{verbatim}
\begin{verbatim}
\texttt{else if} \texttt{shrink\_order(g)} = \texttt{g\_order} \texttt{then}
\texttt{begin} \texttt{vet\_glue(} \texttt{float(} \texttt{glue\_set(} \texttt{this\_box})) \times \texttt{shrink(}g))\texttt{);}
\texttt{rule\_ht} \leftarrow \texttt{rule\_ht - round(} \texttt{glue\_temp})\texttt{;}
\texttt{end}
\end{verbatim}
\end{verbatim}
\end{verbatim}
\begin{verbatim}
doing_leaders ← outer_doing_leaders; dvi_v ← save_v; dvi_h ← save_h; cur_h ← left_edge;
width(p) ← mu_mult(width(p)); subtype(p) ← explicit;
if cur_style < text_style then { display style }
if bchar_label[h] ≠ non_address then { put left boundary at beginning of new line }
q ← p; { now node q represents p_1...p_{l-1} }
undump(0)(fnem_ptr − 1)(bchar_label[k]); undump(min_quarterword)(non_char)(font_bchar[k]);
from appearing again.
while input_ptr > 0 do
    if state = token_list then end_token_list else end_file_reading;
\end{verbatim}
begin init for \( c \leftarrow \text{top\_mark\_code} \) to \( \text{split\_bot\_mark\_code} \) do
if \( \text{cur\_mark}[c] \neq \textnull \) then delete\_token\_ref(\text{cur\_mark}[c]);
store\_fmt\_file; return; tini

\begin{align*}
\text{Page B581, Zabala entry} & \quad (8/19/00) \\
\text{Zabala Salelles, Ignacio Andrés} & \quad 2.
\end{align*}

\begin{align*}
\text{Page C17, lines 12 and 13} & \quad (9/6/00) \\
\text{draw} \quad & \quad \{z_4\{\text{curl} 0\} \ldots \{z_3 - z_4\} \ldots \{\text{curl} 0\} z_4; \\
\text{draw} \quad & \quad \{z_4\{\text{curl} 2\} \ldots \{z_3 - z_4\} \ldots \{\text{curl} 2\} z_3
\end{align*}

\begin{align*}
\text{Page C23, line \(-\)7} & \quad (8/5/98) \\
x_4 = ss = w - x_5; \quad y_3 - y_1 = ygap
\end{align*}

\begin{align*}
\text{Page C69, line 17} & \quad (9/6/00) \\
"\text{abra}" & , while \( p_1 \) is '\((0, 0) \ldots (3, 3)' \) and \( p_2 \) is '\((0, 0) \ldots (3, 3) \ldots \text{cycle}'.
\end{align*}

\begin{align*}
\text{Page C94, line \(-\)11} & \quad (3/4/95) \\
\text{put are assumed to have square pixels. But if, for example, the mode\_def sets }
\end{align*}

\begin{align*}
\text{Page C107, line 15} & \quad (3/4/95) \\
\text{labels} & \quad (1a, 1b, 2a, 2b, 3a, 3b, 4a, 4b, \text{range 1 thru 36}); \quad \text{endchar};
\end{align*}

\begin{align*}
\text{Page C123, lines 21 and 22} & \quad (12/19/95) \\
\text{EXERCISE 14.3} & \\
\text{Use a rotated quarter-circle to produce 'c' in font position 'c'.}
\end{align*}

\begin{align*}
\text{Page C129, lines 6–17} & \quad (8/5/98) \\
\langle \text{path primary} \rangle & \quad \rightarrow \langle \text{pair primary} \rangle \mid \langle \text{variable} \rangle \\
\mid & \quad \langle \text{path expression} \rangle \\
\mid & \quad \text{reverse} \langle \text{path primary} \rangle \\
\mid & \quad \text{subpath} \langle \text{path expression} \rangle \text{ of} \langle \text{path primary} \rangle \\
\langle \text{path secondary} \rangle & \quad \rightarrow \langle \text{pair secondary} \rangle \mid \langle \text{path primary} \rangle \\
\mid & \quad \langle \text{path secondary} \rangle \langle \text{transformer} \rangle \\
\langle \text{path tertiary} \rangle & \quad \rightarrow \langle \text{pair tertiary} \rangle \mid \langle \text{path secondary} \rangle \\
\langle \text{path expression} \rangle & \quad \rightarrow \langle \text{pair expression} \rangle \mid \langle \text{path tertiary} \rangle \\
\mid & \quad \langle \text{path subexpression} \rangle \langle \text{direction specifier} \rangle \\
\mid & \quad \langle \text{path subexpression} \rangle \langle \text{path join} \rangle \text{cycle} \\
\langle \text{path subexpression} \rangle & \quad \rightarrow \langle \text{path expression} \rangle \\
\mid & \quad \langle \text{path subexpression} \rangle \langle \text{path join} \rangle \langle \text{path tertiary} \rangle
Page C134, line 8 (3/4/95)
of \( p \); if \( t \leq 0 \), 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 \( 2r \), \( 2s \), and \( 2t \) 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 \( \texttt{exprs} \):

Page C147, lines 14, 16, and 19 (9/6/00)
[Change ‘\texttt{savepen}’ to ‘\texttt{savepen}’.]

Page C147, line 2 from the bottom (9/6/00)
\( \text{\texttt{FONT}} \)’s \texttt{penrazor} stands for ‘\texttt{makepen} \((−.5,0) \-- (5,0) \-- \texttt{cycle}\)’, and \texttt{pensquare}

Page C171, line 19 (8/5/98)
\((\langle \text{\texttt{path tertiary}} \rangle) \) and \((\langle \text{\texttt{pair tertiary}} \rangle) \). 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 \texttt{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:
\( (1.53745,9.05345) \) \texttt{controls} \( (1.53745,4.00511) \) and \( (5.75409,−0.00049) \)
\( \ldots (10.85147,−0.00049) \) \texttt{controls} \( (16.2217,−0.00049) \) and \( (20.46255,4.51297) \)
\( \ldots (20.46255,9.94655) \) \texttt{controls} \( (20.46255,14.99713) \) and \( (16.23842,19.00049) \)
\( \ldots (11.13652,19.00049) \) \texttt{controls} \( (5.77066,19.00049) \) and \( (1.53745,14.48491) \)
\texttt{cycle}

Cycle spec at line 15, after subdivision:
\( (1.53745,9.05345) \) \% beginning in octant ‘\texttt{SSE}’
\( \ldots \texttt{controls} \) \( (1.53745,6.58786) \) and \( (2.54324,4.371) \)
\( \ldots (4.16621,2.74803) \) \% segment 0
% entering octant ‘\texttt{ESE}’
\( \ldots \texttt{controls} \) \( (5.8663,1.04794) \) and \( (8.24362,−0.00049) \)
\( \ldots (10.85147,−0.00049) \) \% segment 0
% entering octant ‘\texttt{ENE}’

\ldots 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

| ⟨numeric token primary⟩

Page C210, line −2

⟨numeric token primary⟩ → ⟨numeric token⟩ / ⟨numeric token⟩

Page C211, line 16

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

(8/5/98)
Page C213, lines 17–27 (8/5/98)

\[ \langle \text{path primary} \rangle \rightarrow \langle \text{pair primary} \rangle \mid \langle \text{path variable} \rangle \mid \langle \text{path argument} \rangle \mid \\langle \text{path expression} \rangle \mid \begin{align*} &\text{begingroup} \langle \text{statement list} \rangle \langle \text{path expression} \rangle \\text{endgroup} \\
&\text{makepath} \langle \text{pen primary} \rangle \mid \text{makepath} \langle \text{future pen primary} \rangle \\
&\text{reverse} \langle \text{path primary} \rangle \\
&\text{subpath} \langle \text{pair expression} \rangle \text{of} \langle \text{path primary} \rangle \\
\end{align*} \]
\[ \langle \text{path secondary} \rangle \rightarrow \langle \text{pair secondary} \rangle \mid \langle \text{path primary} \rangle \mid \langle \text{path secondary} \rangle \langle \text{transformer} \rangle \]
\[ \langle \text{path tertiary} \rangle \rightarrow \langle \text{pair tertiary} \rangle \mid \langle \text{path secondary} \rangle \]
\[ \langle \text{path subexpression} \rangle \rightarrow \langle \text{path expression} \rangle \mid \langle \text{path subexpression} \rangle \langle \text{path join} \rangle \langle \text{path tertiary} \rangle \]

Page C213, line −4 (8/5/98)

\[ \langle \text{path expression} \rangle \rightarrow \langle \text{pair expression} \rangle \mid \langle \text{path tertiary} \rangle \]

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

line \( z_1 \ldots z_5 \) that bisects \( z_4 \ldots z_2 \), 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)

\( h + a \) and \( \text{bot} y_4 = -a \), so nothing needs to be done there. We should, however, say

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

\[
\begin{align*}
\{ \text{boolean} \} &\quad \{ \text{numeric} \} \\
\{ \text{pair} \} &\quad \{ \langle \text{expression} \rangle \} \\
\{ \text{path} \} &\quad \{ \langle \text{pair} \rangle \} \\
\{ \text{pen} \} &\quad \{ \langle \text{string} \rangle \} \\
\{ \text{picture} \} &\quad \{ \langle \text{transform} \rangle \} \\
\{ \text{string} \} &\quad \{ \langle \text{transform} \rangle \} \\
\{ \text{transform} \} &\quad \{ \langle \text{transform} \rangle \}
\end{align*}
\]

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)

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

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

```plaintext
\def lbrack = \text{\texttt{hide(delimiters [] \texttt{) lookahead [ enddef;}}
\let [ [[[ \texttt{=} \texttt{]}; \let ] [ lbrack;}
```

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

```plaintext
ligtable \texttt{oct"013": "i" \texttt=} \texttt{oct"016", "l" \texttt=} \texttt{oct"017", } \texttt{\% ffi and ffi}
```

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

```plaintext
fine := 4 - eps, and \texttt{breadth[1]} := 4 - eps. \texttt{(A small amount eps has been subtracted}
```

Page C323, line −3 (8/5/98)

statement occurs, the special string \texttt{\"title " \& \langle title\rangle \texttt{is output.} \texttt{(This is how the}

Page C332, lines 22–24 (8/5/98)

be replicated so that the final proofs will be \texttt{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)

\texttt{\%}

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

```plaintext
\ldots \texttt{(bounded join), 18–19, 127, 248, 262}
\ldots \texttt{(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)

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 \TeX\book (1996)

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

“Interfacing with graphic objects” by Ignacio Andrés Zabala Salellas,

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)

\[ v_n + w_n \delta_0 - u_n (v_1 + w_1 \delta_0 - u_1 (v_2 + \cdots - u_{n-2} (v_{n-1} + w_{n-1} \delta_0 - u_{n-1} \delta_0) \cdots)) \]

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)

\textbf{procedure} pack_job_name(s : str_number); \{ s = \texttt{.log, .gf, .tfm}, or base_extension \}
The value of \texttt{cur\_mod} controls the verbosity in the \texttt{print\_exp} routine: If it's \texttt{show\_code},

\begin{verbatim}
  long help_seen;  \{ has the long \texttt{errmsg} help been used? \}
\end{verbatim}

---

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

\textbf{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,

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

---

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

---

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

---

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

\begin{verbatim}
cmchar "Extensible vertical arrow--extension module";
\end{verbatim}

---

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

\begin{verbatim}
cmchar "Extensible double vertical arrow--extension module";
\end{verbatim}

---

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

\begin{verbatim}
x_5 = .5[x_4, x_6];  \ x_4 - x_6 = 1.2u;  \ \text{\texttt{lft x}_{5r} = \texttt{hround}(.5w - .5\texttt{curve})};
\end{verbatim}

---

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

\begin{verbatim}
x_5 = .5[x_4, x_6];  \ x_4 - x_6 = 4.8u;  \ \text{\texttt{lft x}_{5r} = \texttt{hround}(.5w - .5\texttt{max\_size})};
\end{verbatim}

---

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

\begin{verbatim}
x_5 = .5[x_4, x_6];  \ x_4 - x_6 = 1.2u;  \ \text{\texttt{lft x}_{5r} = \texttt{hround}(.5w - .5\texttt{curve})};
\end{verbatim}

---

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

\begin{verbatim}
x_5 = .5[x_4, x_6];  \ x_4 - x_6 = 4.8u;  \ \text{\texttt{lft x}_{5r} = \texttt{hround}(.5w - .5\texttt{max\_size})};
\end{verbatim}
pos3(8[hair, stem], 0); pos4(vair, -90); pos5(hair, -180); pos6(vair, -270); pos7(stem, -360); pos8(vair, -450); pos9(hair, -540); x0 = x1 = x3; \text{lt } x0 = \text{hround}(1.5u - .5\text{hair}); x2 = x4 = x6 = x8 = .5w - .25u; \text{rt } x8v = \text{hround}(w - 1.75u); \rt x7r = \text{hround}(w - u);

\begin{verbatim}
Page E147, lines 8 from the bottom (7/7/97)
\end{verbatim}

y2 = .5[y4, y6]; \text{top } y6v - \text{bot } y4v = vstem + eps; \text{bot } y8 = -oo; y7 = y9 = .55[y6, y8];

\begin{verbatim}
Page E165, line 10 (2/8/97)
\end{verbatim}

x3 = .5[x2, x4]; x7 = .25u = .5[x6, x8]; \rt x8v = \text{hround}(w - .5u);

\begin{verbatim}
Page E187, line 9 (3/6/95)
\end{verbatim}

\text{lt } x1l = \text{lt } x2l = \text{hround}(5w - .5\text{shaved_stem}); \text{top } y1 = h; \text{bot } y2 = 0;

\begin{verbatim}
Page E189, line 8 (3/6/95)
\end{verbatim}

\text{lt } x1l = \text{lt } x2l = \text{hround}(5w - .5\text{shaved_stem}); \text{top } y1 = h; \text{bot } y2 = 0;

\begin{verbatim}
Page E233, line 21 (3/6/95)
\end{verbatim}

\begin{verbatim}
path p; \{[interim superness := more_super; p = pulled_super_arc(3,4)(pull)]\};
\end{verbatim}

\begin{verbatim}
Page E237, line 5 (8/6/98)
\end{verbatim}

\text{lt } x1 = \text{hround}.5u; x2 = w - x1; y1 = y2 = good.y.7[x_height, asc_height];

\begin{verbatim}
Page E239, line 7 from the bottom (3/6/95)
\end{verbatim}

\text{lt } x6v = \text{hround} w; x7 = 3u; x8 = w - 3.5u; \rt x9l = \text{hround}(w - u);

\begin{verbatim}
Page E253, line 2 from the bottom (8/9/98)
\end{verbatim}

\ldots z3e \{down\} \ldots \{z6l - z4l\} z4e -- z5e -- \% stroke

\begin{verbatim}
Page E263, line 21 (5/10/98)
\end{verbatim}

\begin{verbatim}
path p; \{[interim superness := more_super; p = pulled_super_arc(3,4)(pull)]\};
\end{verbatim}

\begin{verbatim}
Page E289, line 2 from the bottom (8/9/98)
\end{verbatim}

\ldots z3e \{down\} \ldots \{z6l - z4l\} z4e -- z5e -- \% stroke
\[ x_4 = \frac{1}{3}[x_2,x_3]; \quad z_4 = z_5 + \text{whatever} \times (15u,1h); \]

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

\textbf{path} \( p \): \{\textbf{interim superness := more_super;} \quad \text{p} = \text{pulled_super_arc}((3,4)(\text{pull}))\};

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

\textbf{path} \( p \): \{\textbf{interim superness := more_super;} \quad \text{p} = \text{pulled_super_arc}((3,4)(\text{pull}))\};

Page E309, line 7 from the bottom (5/10/98)

\[ y_{\text{@0}} = y_{\text{@2}} \left( 1 - \text{bracket} - \text{eps} \right); \]

Page E313, line 7 from the bottom (5/10/98)

\[ y_{\text{@0}} = y_{\text{@2}} \left( 1 + \text{bracket} + \text{eps} \right); \]

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

\textbf{loop_top} = \textbf{if} \ \text{serifs} : \textbf{Vround} .77[\text{vair,fudged.stem}] \ \textbf{else} : \text{vair} \ \textbf{fi};

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

\[ \text{top y}_r = \text{vround} .95h + \text{oo}; \quad \text{top y}_r = h + \text{oo}; \quad y_3 = .5h; \]
\[ \text{bot y}_r = -\text{oo}; \quad \text{bot y}_r = \text{vround} .08h - \text{oo}; \quad y_{5l} := \text{good.y}5l; \quad x_{5l} := \text{good.x}5l; \]

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

\[ \text{top y}_r = \text{vround} .93h + \text{oo}; \quad \text{top y}_r = h + \text{oo}; \quad y_3 = .5h; \]
\[ \text{bot y}_r = -\text{oo}; \quad \text{bot y}_r = \text{vround} .07h - \text{oo}; \]

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

\textbf{numeric} \( a_a,bb,c_x; \quad bb = b/y; \quad cc = c/y; \quad aa = a - bb \times bb; \)
\[ (a \times (cc + + \text{sqr}t aa) - bb \times cc) / aa \textbf{ enddef}; \]

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

\[ x_{13} = x_{11} - .5; \quad \text{top y}_{14r} = \text{min}(10/x_\text{height} + .5\text{bulb_diam}, h) + 1; \quad \text{top y}_{11} = x_\text{height}; \]

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

\[ x_{23} = x_{21} - .5; \quad \text{top y}_{24r} = \text{min}(10/x_\text{height} + .5\text{bulb_diam}, h) + 1; \quad \text{top y}_{21} = x_\text{height}; \]

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

\textbf{filldraw} \( z_0 \rightarrow (x_0,y_2) \rightarrow z_{1r} \rightarrow z_{1r} \rightarrow z_{2r} \rightarrow \) \textbf{subpath} \( t,0 \) \textbf{of} \( z_{3r} \rightarrow z_{2r} \rightarrow \{2(x_0 - x_3),y_0 - y_3\} z_{5r} \)
Page E431, line 2 from the bottom (8/8/98)

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow \{ \text{left} \} z_1 \rightarrow (x_0, y_{2r}) \rightarrow \{ \text{right} \} z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

% arrowhead and stem

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

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow z_1 \rightarrow \{ \text{left} \} \rightarrow \{ \text{right} \} \rightarrow z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

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

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow z_1 \rightarrow \{ \text{left} \} \rightarrow \{ \text{right} \} \rightarrow z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

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

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow z_1 \rightarrow \{ \text{left} \} \rightarrow \{ \text{right} \} \rightarrow z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

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

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow z_1 \rightarrow \{ \text{left} \} \rightarrow \{ \text{right} \} \rightarrow z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

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

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow z_1 \rightarrow \{ \text{left} \} \rightarrow \{ \text{right} \} \rightarrow z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

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

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow z_1 \rightarrow \{ \text{left} \} \rightarrow \{ \text{right} \} \rightarrow z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

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

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow z_1 \rightarrow \{ \text{left} \} \rightarrow \{ \text{right} \} \rightarrow z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

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

\[ \text{filldraw} \ z_0 \rightarrow (x_0, y_{2r}) \rightarrow z_1 \rightarrow \{ \text{left} \} \rightarrow \{ \text{right} \} \rightarrow z_1 \rightarrow (x_0, y_{2r}) \rightarrow \text{cycle}; \]

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

\[ \begin{align*}
\text{beginarithchar} & \ (\text{oct} "{}004") ; \ \text{pickup} \ \text{fine.nib}; \ \text{pickup} \ \text{rule.nib}; \\
\text{numeric} & \ \text{del} = \ \text{dot.size} \ - \ \text{currentbreadth}; \ \% \ \text{currentbreadth} = \ \text{fine} \\
x_3 & \ - \ 0.5\text{del} = \ \text{good.x.(5w \ - \ 0.5\text{del})}; \ \text{center.on}(x_3); \\
y_3 & \ + \ 0.5\text{del} = \ \text{good.y.(math_axis} \ + \ \text{math_spread.}[0.5\text{x.height}, 0.6\text{x.height}] + 0.5\text{del}) ; \\
\end{align*} \]

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

— JOHN SMITH, The Printer’s Grammar (1755)

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

\[ \text{lift} \ x_6 = \text{hround} \ w; \ x_2 = w \ - \ x_6; \ \text{top} \ y_8 = \ h; \ y_8 \ - \ y_4 = x_2 \ - \ x_6; \]
\[ lx = h \text{round} u; \quad x_2 = w - x_6; \quad top y_9 = h; \quad y_9 - y_4 = x_2 - x_6; \quad \text{circle_points}; \]

\[
\text{spread} := 2\text{ceiling}(\text{spread} \# \times hppp / 2) + \text{eps}; \quad \text{enddef};
\]

--- \( z_{1r} \ldots z_{11} \) --- \textbf{subpath} \((t, 0)\) of \((z_{3l} \{z_9 - z_3\} \ldots z_{5r})\)

--- \( z_{11r} \ldots z_{11l} \) --- \textbf{subpath} \((t, 0)\) of \((z_{13l} \{z_{19} - z_{13}\} \ldots z_{15r})\)

--- \( z_{1l} \ldots z_{11} \) --- \textbf{subpath} \((t, 0)\) of \((z_{3l} \{z_9 - z_3\} \ldots z_{5r})\)

--- \( z_{1l} \ldots z_{11} \) --- \textbf{subpath} \((t, 0)\) of \((z_{3l} \{z_9 - z_3\} \ldots z_{5r})\)

--- \( z_{1l} \ldots z_{11} \) --- \textbf{subpath} \((t, 0)\) of \((z_{3l} \{z_9 - z_3\} \ldots z_{5r})\)

--- \( z_{1l} \ldots z_{11} \) --- \textbf{subpath} \((t, 0)\) of \((z_{3l} \{z_9 - z_3\} \ldots z_{5r})\)

--- \( z_{1l} \ldots z_{11} \) --- \textbf{subpath} \((t, 0)\) of \((z_{3l} \{z_9 - z_3\} \ldots z_{5r})\)

labels\((1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15)\); \textbf{endchar};

Page E568, the example of \texttt{cmtex8} \(4/18/96\)

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

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

\textit{currentbreadth}, 483, 545, 546.

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

Holmes, Kris Ann, vi, vii.

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

Delete the entry for Luckombe

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

Smith, John, 87, 485.