This is a list of all errors in the September 1978 TEX user manual that were known on November 4, 1978. It also includes a few things that were omitted in September. All these changes (and only these) have been incorporated into the November 1978 manual.

Title page, change date to "November 1978 (second printing)" and change "draft" to "drafts" in the first line of the footnote.

Page 26, line 4, delete "of the second paragraph".

Page 29, line 13, change "later.)" to "later. A list of control sequences for special symbols appears in Appendix F.)"

Page 40, line 15
(one centimeter equals 26.600 Didot points)

Page 32, line 18, change "12" to "11".

Page 59, line 4, insert a ")" after this line.

Page 61, line 28, insert a "$" before the pound sterling sign

Page 61, line 30, change ", and" to ", ``$\$$'', and"

Page 82, line 13, append this to the paragraph: "Another case is a formula like n/log n, where a negative thin space has been inserted after the /.)".

Page 102, line 6, append this to the paragraph: "The control sequences \vcenter and \vtop are also useful for box positioning (see Chapter 26)."

Page 106, line 17, change "instead of ``$\ctr{#}$''" to "instead of ``\ctr{$#$}''".

Page 106, last three lines, change "processed; you might ... appropriate \def." to "processed.".

Page 135, change the first 7 lines to the following:

    based only on the current style, regardless of the sizes of numerator and denominator.

```
     / \vcenter \
  *<               >{<vlist>}        Append a centered or top-adjusted box.
     \   \vtop  /
```
The specified vertical list is constructed in restricted vertical mode, then it is \vjusted and the resulting box is moved up or down so that (\vcenter) it is centered vertically just as large delimiters are, or (\vtop) the baseline of the topmost box in the vertical list coincides with the baseline of the formula. Then TEX resumes its activities in math mode.

Page 158, line 16, change ". (We" to ".\xskip (We".

Page 158, new paragraph inserted before the 4th-last line on this page:
   * Within a paragraph, type ``\xskip'' before and after parenthesized sentences. (For example, there is an \xskip in the paragraph you are now reading, and in algstep E1 above.)

(The convention just explained has also been introduced into the entire TEX manual.)

Page 159, replace last two paragraphs by one paragraph, to wit:
    If the exercise contains a ``hint'' within a paragraph, you type
``\xskip[{\sl Hint:} ''; as usual, there should be no space before \xskip.

Page 162, line 4, change "Addison-Wesley's" to "the publisher's".

Page 165, line 15, change "4.5" to "4.625".

Page 165, line 23, change "4" to "4.25".

Page 182, line 6, change "or XYZages" to "XYZages, or XYZest"

Page 182, lines 14 and 15, change "-xe, or -xye, where x and y" to
        "-Xe, or -XYe, where X and Y"

Page 182, line 18, new sentence appended to this paragraph:
        "Similarly, final syllables of the form -Xed or -XYed (except -ized)
        are also disregarded."

Page 185, line 22, delete "guess-work"

Page 186, line 7, change "prob-a-bil-ity" to "prob-abil-ity".

Page 187, index entry for Bibliographic..., change "14" to "15".

Page 189, index entry for \deg, add page 164.

Page 195, delete 15th line in left-hand column.

Page 195, index entry for \spose, add page 39.

Page 196, index entry for \vcenter, add page 102.

Page 196, new index entry:
    \vtop (make <vlist> box using top baseline), 102, 135.

Page 196, index entry for \xskip, change "159" to "158--160".

Page 196, index entries for \yskip and \yyskip, change "158--159" and "158"
to "159".

Page 197, index entry for \$, add page 61.

Page 198, the TEX logo is too small, each time it appears on this page.

Extensions to TEX made since the November printing of the manual:

1. Several new <dimenparam>s have joined \hsize, \vsize, \topbaseline, etc.,
namely \lineskiplimit, \mathsurround, and \varunit.
By typing "\lineskiplimit <dimen>" you specify a dimension p such that
\lineskip glue is used as the interline glue if and only if x-h-d < p, in
the notation of Chapter 15.
By typing "\mathsurround <dimen>" you specify an amount
of blank space to be inserted at the left and right of any formula
embedded in text (i.e., formulas delimited by $ and $).
By typing "\varunit <dimen>" you specify the current value of a
variable-size unit; the code "vu" denotes such relative units in a <dimen>
specification. For example, after you define "\varunit 2pt", a <dimen>
of "7vu" would stand for 14 points. When TEX begins, the values of
\lineskiplimit, \mathsurround, and \varunit are Opt,
Opt, and 1pt, respectively.

2. There is a new option to \advcount: If you type "\advcount <digit> by
<number>" the specified counter is increased by the specified number. (When
the "by" option is omitted, the counter is increased by plus-or-minus one as
presently.) For example, "\advcount 0 by - \count 1" subtracts counter 1 from
counter 0.

3. The control sequence \unskip can be used in horizontal mode (or restricted
horizontal mode) to delete one glob of glue, if this glue was the last item
added to the horizontal list. The main use of this is to remove an unwanted
space that may have just appeared. For example, in a macro expansion the string
"#1\unskip" denotes parameter #1 with a final blank space (or other glue)
removed, if #1 ends with a blank space (or other glue).

4. Typing "\uppercase{<token list>}" in horizontal mode will change all
lower-case letters of the token list into upper case. (But not the letters of
control sequences.) Similarly, "\lowercase{<token list>}" changes upper-case
letters into lower case.

5. Typing "\xdef<control sequence>{<result text>}" is like
"\gdef<control sequence>{<result text>}" except that definitions in the result
text are expanded. For example, "\xdef\z{\z\y}" will append the current result
text of macro \y to the current result text of macro \z. You can also use \xdef
to expand \counts (as well as \topmarks, etc., in \output routines).

6. The new control sequence \ifpos is analogous to \ifeven; the
\else code is evaluated only if the specified counter is zero or negative.
For example, you can use \ifpos to test if a counter is zero in the
following way:

\def\neg#1{\setcount#1-\count#1}
\def\ifzero#1#2\else#3{\ifpos#1{#3}\else{\neg#1
    \ifpos#1{\neg#1 #3}\else{\neg#1 #2}}}

7. A new unit has been added: "em" equals one quad in the current font.

Corrections noted since the November 1978 printing:

Page 14, line 15, change "TEXes" to "TEXs".

Page 22, line 7, change "reading from, if any." to: "reading. (Don't do this unless there is such a file.)"

Page 56, line 14, change "n2" to "n1".

Page 83, line 3, change "it is reclassified as Ord." to "Bins are reclassified as Ords, from left to right."

Page 101, append a new sentence to the second dangerous bend:
However, all other parameters affecting the setting of the boxed paragraph (the baseline skip, raggedness, etc.) should be set up {\sl before} the \hbox par.

Page 114, lines -2 and -1, change "\hjsut" to "\hbx" (thrice)

Page 118, line 23, change "final page is" to "page is finally"

Page 127, line 21, change "final page is" to "page is finally"

Page 138 (AMS version), line -4, move "nother example." one space left.

Page 140, line -13, change "Extra " to "Extra alignment tab".

Page 145, a new error message:
Warning: Long input line has been broken.
Your input file contained a very long sequence of characters between carriage returns. TEX arbitrarily broke it after 150 characters.

Page 150, lines 4-6 of the code in answer 23.2 should be:
        \def\lead{ \leaders\hrule\hfill\ }
        \hbox to 4.5in{\ifeven0{\:b\count0\lead\topmark}
          \else{\:b\topmark\lead\count0}}}

Page 152, replace lines -8 and -7 by:
\def\spose#1{\hbox to 0pt{#1\hskip0pt minus10000000pt}}

Page 165, replace the various definitions of "\9" by the single definition "\def\9{\hskip .5em}", putting the latter just before the definition of \xskip.

Page 166, in the definition of \dimsectionbegin:
Change "\yyskip" to "\sectionskip".

Page 178, the paragraph of text, delete "But watch out: ... Appendix B.)"

Page 181, line 18, change "word," to "word, and".

Page 184, line 5, add "gold-en".

Page 185, line 21, change "ex-press-ible" to "ex-press-*i*ble".

Page 186, line 11, change "com-put-a-*bil-ity" to "com-put-a*bil-ity".

Pages 187-197, "see" and "see also" are in the wrong font in the AMS version (Xerox software bug!)

Page 190, \Fscr entry should be on a line by itself.

Page 190, \halign entry, change "135" to "136".

Page 191, Knuth entry, change "14" to "15".

Page 194, \Qscr entry is not in alphabetic order.

Page 194, add "Roman numerals, 111."

Page 195, Spacing in math formulas,
    tables, 81, 83.

Page 196, last entry in v's has the "vu" entry run into the previous one.

Page 196, entry for \xdef is out of alphabetical order.

Page 197, add: "' (octal number), 34."

Important changes made to TEX on February 25, 1979:

The American Math Society will be printing copies of the TEX manual
with all the above bugs cleaned up, and on this occasion it was the
last chance to change TEX before changes became unwieldy. Thus, Knuth
decided to make a couple improvements, to wit:

1. The control sequences \hjust and \vjust are henceforth changed to \hbox and
\vbox. (This should cause you little or no trouble with MSs already typed,
simply insert "\def\hjust{\hbox}\def\vjust{\vbox}" at the beginning of your
file.)

2. The old kludge about \hjust to ...{   } making a boxed paragraph if the
contents were too large has been replaced by a far better convention.
This change will make TEX balk on some manuscripts it previously handled
(e.g. it might now say "Overfull box, 1138.74 points too wide"), but
only a few changes will really be necessary in your files.

Here are the new rules (replacing the previous rule on page 101):

* You can also get the effect of paragraphing and line-breaking with
  \hbox, in the following way: If you give the instruction "\hbox par<dimen>",
TEX will use its paragraph line-breaking routine to convert the horizontal list
into one or more lines of the specified width. In this case the \hbox will
actually result in a box formed from a {\sl vertical} list of horizontal lists
of the desired width. The boxed paragraph that you get is not indented.

        For example, the box you are now
        reading was made by typing "\hbox
        par 156pt{For example, the box
        ... five lines.}" and TEX broke
        it into five lines.

* If you specify hanging indentation with such a boxed paragraph, it applies
  to the box and not to the paragraph (if any) containing the box. For
example,

        \hbox par 200pt{\hangindent 10 pt <text >}

will put the specified text into a box 200 points wide, where all lines after
the first are indented by 10 points at the left.

New extensions to TEX subsequent to the April printing of the manual.

\chcode has been extended to give you the opportunity to change TEX's math mode
conversion (Appendix F8). Type "\chcode <ascii code plus '200> _ '<type><char>"
where <type> is 0,1,2,3,4,5,6 for Ord,Op,Bin,Rel,Open,Close,Punct,
respectively, and <char> is the three-octal-digit code.
For example, a colon (ascii code '072) is normally treated by TEX as Ord'072,
according to Appendix F8. It turns out this is usually a mistake in computer
science papers, it should rather be Rel'072 (treated as a relation box with
respect to spacing in formulas, see Chapter 18.4). You can get this by
typing "\chcode'272 '3072". (Then formulas like "$x:=x+1$" and "$f:X\to Y$"
will come out properly.)

Three new units of measure are allowed: wd<digit>, ht<digit>, dp<digit>,
denoting the width, height, and depth of a saved box. For example, if you
type "\save5\hbox{k}\hbox to 2 wd5{}" you get an empty box that is twice the
width of the letter k in the current font.

You can use a single letter where TEX expects a <number>; the result is
the ascii code of that letter. For example, the definition of \max in
Appendix B would now more properly be
        \def\max{\mathop{\char m \char a \char x}} .
This works only for letters (characters of type 11, see Chapter 7).

The new control sequence \firstmark is allowed in output routines. It
equals the first mark on the page, if any, otherwise it has the
common value of \topmark and \botmark.

The new control sequences \ifvmode, \ifhmode, \ifmmode (analogous to other
\if's) select text based on the current mode.

The new control sequences \hfil, \hfilneg, \hss are short for
\hskip 0pt plus 100000pt, \hskip 0pt plus -100000pt,
\hskip 0pt plus 100000pt minus 100000pt, respectively,
and they take less TEX memory space. The vertical analogs are \vfil, \vfilneg,
and \vss. Examples of use: "\vfil\penalty0\vfilneg" specifies an optional
page break, with a "short" page if the break occurs; "\penalty1000\hfilneg\ "
at the end of a paragraph will force the last line of the paragraph to be
right justified (it cancels the paragraph-fill glue supplied automatically by
TEX).

Control sequences of any length are now remembered in full; the seven-letter
truncation mentioned in Chapter 3 no longer happens.

IMPORTANT NOTE ABOUT A CHANGE TO BASIC.TEX

Since most of the rest of the world doesn't have the SAIL character set,
they can't use the special codes we do. Therefore the new TEX manual
will not be able to use circle-times () as the tab mark, and instead
the ampersand character (&) will be adopted for that purpose. (This
convention is already in wide use outside of Stanford.)
Furthermore, the normal character for subscripting will be underline (),
although the manual will continue to show it as .

With these two changes, TEX will be able to live entirely in the ascii
world. What does this mean to us at Stanford? Only one thing that is
incompatible with what we have been doing:
        We shouldn't use the character & by itself to stand for an
        ampersand in the current font.
Instead, the control sequence \& should be used.

For example, if you now have a file that refers to
        Software---Practice & Experience
you should change that to
        Software---Practice \&\ Experience
(noting that a \ should come both before and after the ampersand).

The file BASIC.TEX has been changed so that \& will give you the
ampersand sign, as \% gives you the percent sign. Please change
your files now to use this feature, because it won't be long before
BASIC.TEX changes again to DISALLOW the old use of &. If you try
& after the NEXT change, you'll get an error message "! There's no
\halign or \valign going on."